Legal & General WorkSave Mastertrust
Legal & General WorkSave (RAS) Mastertrust

Task Force on Climate-related Financial Disclosures Report

Year ending 5 April 2023

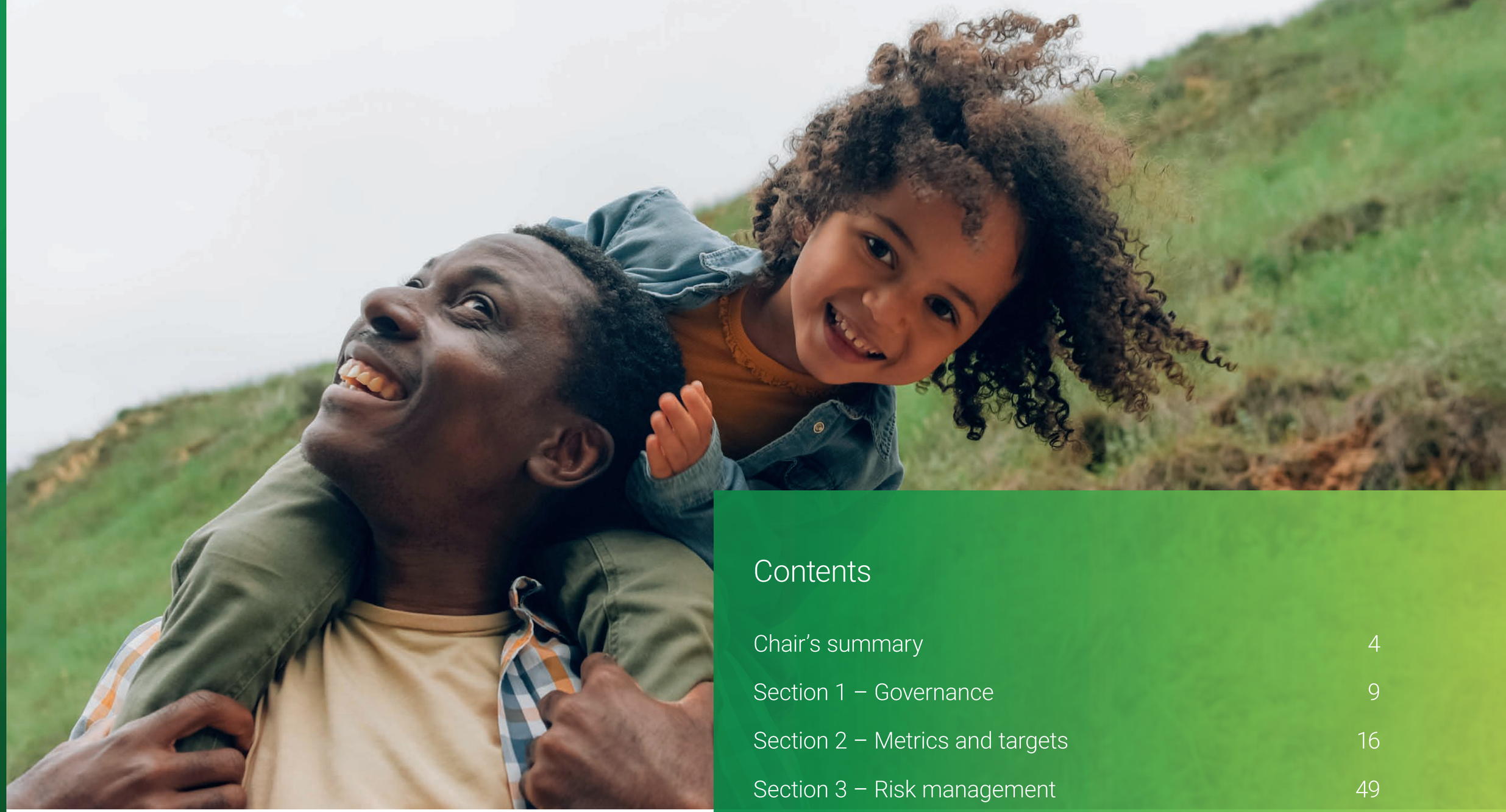
This report has been produced in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). TCFD reporting was established to develop voluntary, consistent climate-related financial disclosures and designed to improve transparency of how companies, asset managers, asset owners, banks and insurance companies manage their Climate-related Risks and Opportunities (CRRO).

This report covers the reporting period 6 April 2022 to 5 April 2023.

Where we use the term 'Mastertrust' we are referring to both the Legal & General WorkSave Mastertrust and the Legal & General WorkSave (RAS) Mastertrust.

In writing this report the Trustees have engaged with and relied upon information provided by Legal & General Investment Management Ltd (LGIM) as our investment manager, Legal & General as the provider and Hymans Robertson as our independent investment adviser.

The Chair's Summary provides an overview of this year's assessment, and the rest of the report explains in technical detail the research and analysis that we have considered. If you have any questions about any aspect of the issues raised, please email us at mastertrust_trustees@lgim.com.



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Chair's summary

Robert Waugh
Chair

Welcome to our second report on climate-related matters.

The TCFD recommendations are structured around four thematic areas, which are covered in detail in separate sections in the report:

- Governance: the Scheme's governance around Climate-related Risks and Opportunities (CRRO)
- Metrics and targets: the metrics and targets used to assess and manage relevant CRRO to the Scheme.
- Risk management: the processes used to identify, assess, and manage climate-related risks to the Scheme.
- Strategy: the actual and potential impacts of CRRO on the Scheme's strategy and financial planning.

Climate change is both a financial risk and an opportunity for pension schemes, and good member outcomes cannot be achieved without the sustainable growth of the economy. While this year's report continues to demonstrate good progress against our net-zero targets, metrics can be easily impacted by external factors, as well as data coverage, and therefore careful consideration and analysis is required when interpreting the results. This report presents our analysis and the reasoning behind it, bringing it to life through various case studies.

We are increasingly concerned that the window of opportunity to achieve a 1.5°C climate outcome is starting to close at a worrying speed. We remain as committed as ever to ensuring that climate change is considered in our investment decisions and when managing overall risk for the Mastertrust. The interdependencies between nature and climate are of critical importance. A changing climate threatens natural ecosystems, and nature loss amplifies climate change by reducing the ability of ecosystems to store carbon.

We are required to report on a fund (or funds forming part of an investment strategy) with assets in excess of £100 million, or which accounted for 10% or more of the assets at 5 April 2023. These are referred to as the 'funds in scope' throughout this report.

The next pages cover some of the key highlights of our assessment.

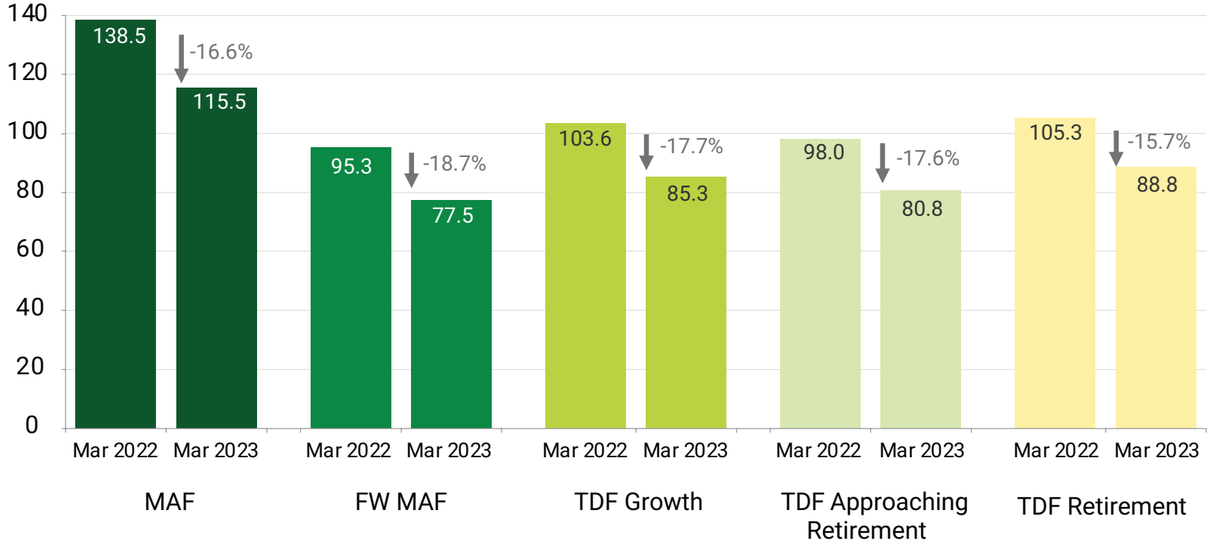
Key highlights from this year's report include that:

1. **We have introduced a calculation of the total carbon emissions of the funds in scope for TCFD reporting.** As at 31 March 2023, the total (Scope 1 and 2) carbon emissions was 1,526,017 tonnes. This figure is for a total AUM of £17,266 million.

   Total emissions will rise and fall over the year, driven by the flow of assets under management into and out of in-scope funds, and be affected by changes in the reported carbon footprint (intensity) of the funds being invested in. As such, we need to consider a number of different metrics to draw any conclusions from the analysis.

2. **Over the last year, there has been a reduction in the reported carbon footprint of all the funds in scope.**

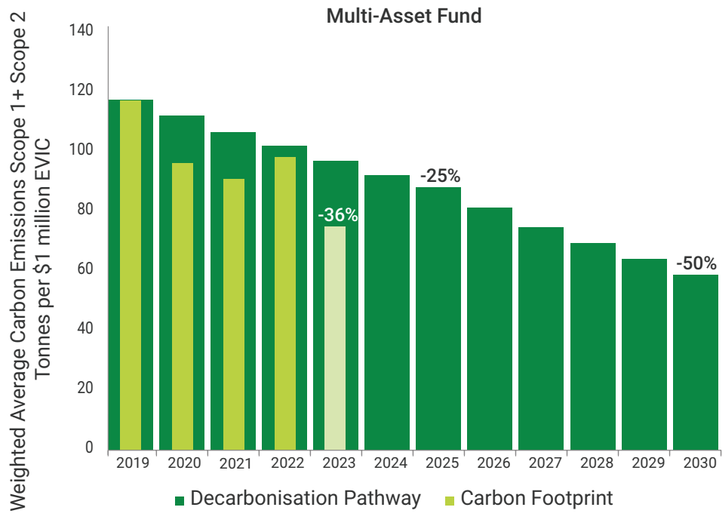
   Carbon footprint (Scope 1 and 2) of Legal & General Mastertrust default funds, tonnes CO_2e per £1 million EVIC, change from 31 March 2022 to 31 March 2023.

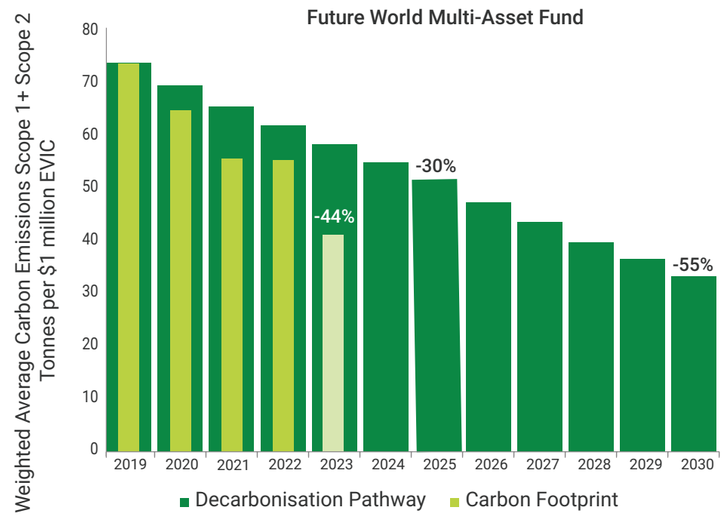


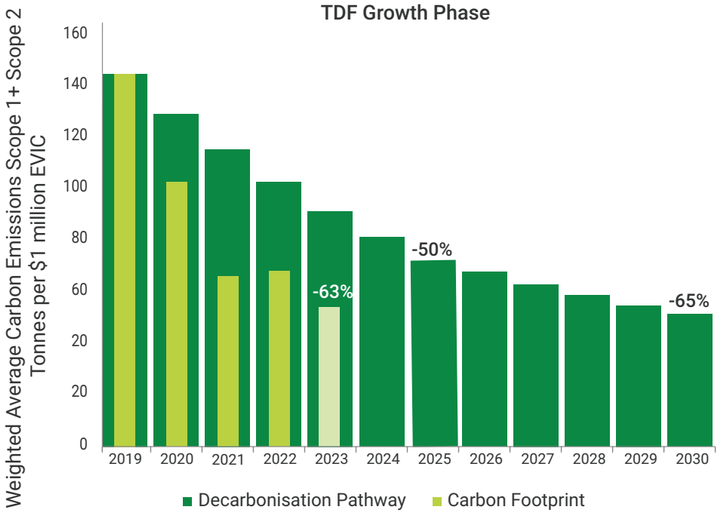
3. **All of the default funds have surpassed their 2025 carbon footprint reduction targets, with the Target Date Funds also at, or ahead of, their 2030 goals.** Much of the progress, which can be seen in the previous charts, can be explained by how the metric has been calculated, rather than a reduction in emissions.

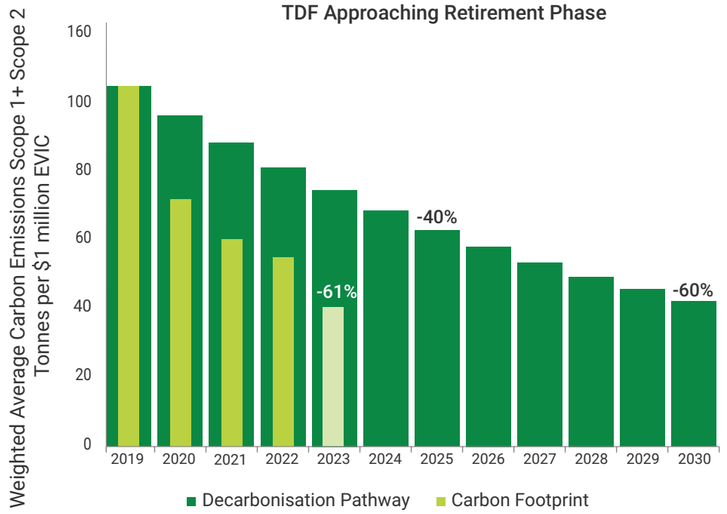
   However, we are not celebrating just yet. The results may change because of improvements in data coverage and variations in the areas of focus. We have sought, therefore, to understand the activities undertaken to drive positive change by our fund managers, for example changes to the portfolio allocations and holdings, rather than external factors.

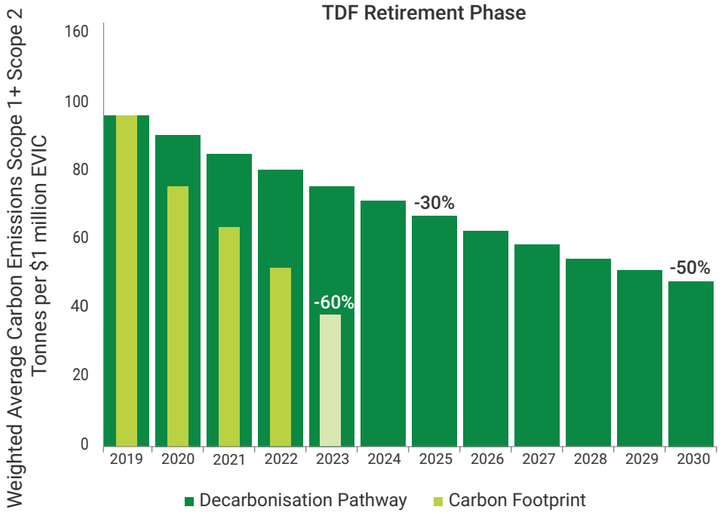
   We are pleased to report that LGIM has introduced change, increasing the number of company exclusions and the sustainable infrastructure within our defaults, and alongside improvements delivered by external factors, e.g. calculation methodology, this has served to help us deliver on our net-zero targets.











4. **Data coverage has also increased, and we've expanded in our report on how LGIM validates and calculates the data used in our reporting.** While this is positive, significant data gaps remain, either due to the type of assets, for example for real estate, or due to the complexities in applying data to more advanced financial instruments, such as derivatives.

   Any externally managed assets are not included in the figures shown in this report. For context, 1.8% of in-scope funds are externally managed as at the reporting date. For in-scope lifestyles, and assuming all AUM is currently in the growth stage (and so reflecting the investments held in this stage), 7.7% are externally managed as at the reporting date.
   For the first time, this year's report includes information and a specific case study focused on Scope 3 emissions. However, caution is urged; data limitations particularly impact Scope 3 emissions and we are mindful that having lower Scope 3 emissions relative to a peer is just as likely to mean 'less complete disclosure' as it is 'better for climate'. LGIM advocates improved and standardised Scope 3 disclosure to facilitate comparisons between similar companies, and the same company across time, allowing for meaningful insights to be drawn and we support this call to action.

5. **The management of Climate-related Risks and Opportunities is integrated within our risk management and governance processes, and we remain particularly diligent about the stewardship activities undertaken by fund managers.** In particular, we meet twice yearly with LGIM, our primary fund manager, to discuss its overarching strategy (engagement, enforcement and enhancement), emerging trends and themes and voting policies and decisions.

We are pleased with the progress made in this year's report, but we are also mindful of the ongoing challenges, particularly in relation to the credibility of ESG data availability and how the targets set to fulfil TCFD regulatory requirements may be developed further.

Scope

This report covers our activities to address and manage Climate-related Risks and Opportunities in our investment process during the 2022/2023 financial year. For the purposes of this report, we have limited the scope of metrics and scenario analysis to the strategies and funds that constitute popular arrangements. Popular arrangements are a fund (or funds forming part of a strategy) with assets in excess of £100 million, or which accounted for 10% or more of the assets at 5 April 2023.

There are 23 funds and 10 lifestyles that fall within the scope of this year's TCFD reporting requirements, an increase from the 17 funds in last year's report. At the current time, the DWP considers that it is appropriate to disclose popular arrangements only.

Fund
L&G PMC Multi-Asset 3 Fund
L&G PMC 2020 - 2025 Target Date Fund 3
L&G PMC 2025 - 2030 Target Date Fund 3
L&G PMC 2030 - 2035 Target Date Fund 3
L&G PMC 2035 - 2040 Target Date Fund 3
L&G PMC 2040 - 2045 Target Date Fund 3
L&G PMC 2045 - 2050 Target Date Fund 3
L&G PMC 2050 - 2055 Target Date Fund 3
L&G PMC 2055 - 2060 Target Date Fund 3
L&G PMC 2060 - 2065 Target Date Fund 3
L&G PMC 2065 - 2070 Target Date Fund 3
L&G PMC 2070 - 2075 Target Date Fund 3
L&G MT Future World Multi-Asset Fund
L&G PMC Cash Fund 3
L&G PMC UK Equity Index Fund 3
L&G PMC World (Ex-UK) Equity Index Fund 3
L&G PMC Global Equity Fixed Weights 50:50 Index Fund 3
L&G PMC Retirement Income Multi-Asset Fund 3
L&G PMC All World Equity Index Fund 3
PB Composite Global Equity Index Fund
Employer D* Corporate Bond Fund
Employer D* Diversified Fund
Employer D* Growth Fund

Lifestyle profiles
Legal & General Drawdown Lifestyle
Employer A
Employer B
Employer C
Employer D* (i)
Employer D* (ii)
Employer E
Employer F
Employer G
Employer H

* Funds hold a portion of assets managed by fund managers external to LGIM.

Section 1

Governance

Introduction

There has never been a more important moment to address the generation-defining challenge of climate change and its impact on the environment and people. We believe the window to achieve a 1.5°C outcome, consistent with net-zero carbon emissions by 2050, is nearly closed. Investors must use every legitimate tool at their disposal to mitigate the systemic risk posed by climate change. It is only by understanding the risks and challenges and by imposing governance and carrying out due diligence that we can seek to understand, monitor and address these risks.

Within this section of the report, we:

- outline our climate-related beliefs
- describe how CRRO are identified, assessed and managed
- demonstrate how all responsible parties involved in our processes maintain and develop the required knowledge and experience
- discuss changes and progress since our last TCFD report

Our beliefs

We recognise that the Mastertrust represents a sizeable proportion of UK employees, and that its interests should be aligned with those of the broader public. Therefore, investments that consider these broader interests (including, but not limited to, environmental, social and governance factors) will likely be able to better deliver long-term sustainable financial outcomes for members, without compromising returns. We believe that by investing responsibly to create long-term societal and financial returns, we can continue to drive the social and environmental evolution to ensure a brighter future for everyone.

Good governance is crucial to ensure the best possible outcomes for our members. Having strong investment principles is a critical part of good governance and outlines the foundations on which we agreed to build the Mastertrust. Our Statement of Investment Principles includes the following beliefs related to climate:

Stewardship and engagement: Strong stewardship and stakeholder engagement play a key role in ensuring the long-term sustainability of an investment and good outcomes for members; this includes incorporating environmental, social and governance matters into voting decisions.

Tilting: The Mastertrust, where appropriate, will utilise the data and scoring of companies to influence the allocation of capital, tilting towards investments that score positively and away from investments that do not.

Exclusions: Where necessary, the Mastertrust may use funds that divest from opportunities not aligned with long-term sustainable ownership and inclusive capitalism.

Non-financial factors: The Mastertrust will consider members' views on non-financial matters alongside its fiduciary duty and the need to deliver good outcomes in its investment decision-making. It does this by utilising tools like Tumelo, as well as by considering the regular research of members undertaken by LGIM.

Responsibilities

- The **Trustee Board** has ultimate responsibility and oversight for the Mastertrust's approach to climate and to approve the relevant risks and opportunities, which are subject to an annual review. The Trustees have overall responsibility for the strategic oversight and approval of Climate-related Risks and Opportunities (CRRO), which are also subject to an annual review. In addition, we are responsible for setting the investment strategy across the whole Mastertrust and for monitoring the activities and deliverables from service providers. The main Trustee Board meets at least quarterly and receives reports from our service providers on their investment and stewardship activities to inform the annual review. Climate risk is a regular agenda item.

- **The Investment Committee (IC)**, on behalf of the Trustees, uses analysis to consider and oversee the day-to-day process of identifying, assessing and managing CRRO. This includes a responsibility to determine the current and emerging risks and opportunities, leveraging the support of our independent investment adviser, LGIM and external fund managers. Any changes or updates will be recommended by the IC to the Trustee Board for approval.

  The IC has assessed the CRRO across the Mastertrust. In addition, it has undertaken work to establish and determine how risks can be monitored and assessed, and to ensure it is provided with adequate reporting and analysis.

  Any changes or updates will be recommended by the IC to the Trustee Board for approval.

- **Legal & General:** Legal & General has several group businesses that are responsible for the investment platform, administration, investment and operations of the Mastertrust. We have a unit-linked insurance policy with Legal & General, through which we hold notional units relating to investments in underlying funds. Legal & General carries out due diligence on the underlying fund managers, including LGIM, our primary investment manager, and reports its due diligence activity to the IC as each fund is made available and through quarterly oversight of all funds within the Mastertrust.

  As the platform provider, Legal & General is responsible for providing an appropriate level of due diligence on fund managers.

  Legal & General also provides dedicated support to the Trustees in managing the schemes. This includes the **Pension Scheme Management Team**, which provides executive support to the Trustee Board and its sub-committees. The PSMT provides pensions and regulatory expertise and supports us with governance activities relating to identifying, assessing, and managing CRRO. We also benefit from a **dedicated relationship-management team** that co-ordinates resources across Legal & General and LGIM to support the us and the **Company Secretariat** section.

- **Legal & General Investment Management Ltd (LGIM):** LGIM is the fund-management company that manages the majority of the Mastertrust's assets. As our primary investment manager it contributes to the analysis of our CRRO and is key to providing us with the necessary metrics and scenario analysis. It also identifies and flags any potential risks and opportunities as they arise.

- **Investment adviser:** We have appointed Hymans Robertson as our independent investment adviser. Hymans Robertson provides advice on the funds used in the default arrangement and self-select ranges, including the provision of advice in line with Section 36 of the Pensions Act 1995. As part of the service, it considers ESG factors including CRRO when selecting and advising on funds or strategies.

  We have set objectives for Hymans Robertson in line with regulations. These include specifically helping us to meet our climate-related objectives, including the requirements under the regulations.

  Hymans Robertson has advised on the appropriateness of the metrics we selected with input from LGIM, provided advice and commentary on this report, and held discussions with LGIM to fully understand stewardship and modelling capabilities with respect to CRRO.

- **External fund managers** are required to provide details of their agreed metrics to our investment adviser.

Activities undertaken

We have undertaken the following activities in assessing and managing CRRO across the reporting period:

Focus area	Activity
Required that our investment managers integrated ESG issues into their investment processes, covering the selection, retention and realisation of investments. This is to better assess the long-term sustainability of the performance of companies in which our members' savings will be invested.	Over the course of the year, the investment adviser's research team has undertaken a review of all the funds within the Mastertrust, including funds with external managers. Responsible investing is fully embedded within this process, with researchers considering ESG within each section of their framework. The vast majority of the funds are rated 'preferred'. A 'red flag' system is in place that would prevent the investment adviser recommending an investment in a fund where issues are identified by its research team.
Identified climate-related risks, including physical and transitional risks, and climate-related opportunities. We also identified the impact these risks and opportunities will have on the Mastertrust's investments.	Throughout the reporting period we have regularly reviewed CRRO, as well as wider ESG issues, including training sessions on emerging areas of focus, for example deforestation. We have expanded the analysis within this report on how CRRO are taken into account by LGIM within its scenario analysis. Consideration of risks is also a constant part of the fund monitoring process.
Received regular updates on the work asset managers are doing regarding their stewardship activities.	In relation to LGIM, this included a deep dive on its voting policies and significant votes in the period. At our strategy day on 20 April 2022, we: • Received a presentation from our independent investment adviser on evolving stewardship themes, with a particular focus on biodiversity, and on the evolution of what good investment stewardship looks like. • Discussed LGIM's approach to ESG supported by its views of investment innovation, including ESG and responsible investing. • Discussed members' votes through Tumelo and alignment with LGIM's voting policies.
Reviewed progress against our existing net-zero target and considered how this should evolve over time, with increased data coverage, to be more forward-looking.	We continue to target net zero across our sole governance default strategies and will monitor climate-related risks over the relevant short, medium and long-term horizons. We continue to use five- and 10-year targets for the reduction of the carbon emissions intensity of the default funds (to be rolled forward every five years), against an overarching objective of net zero by 2050. We still believe a five-year horizon is sufficiently tangible to operate effectively as a planning horizon – to set out goals, establish a plan to implement and review at least annually the progress towards those goals. We receive presentations from LGIM on progress against net-zero targets on a six-monthly basis.

Reviewed and updated our governance processes and policies.	In 2021 we introduced our own climate policy, before the TCFD requirements. We reviewed this policy and given the duplication of information across our Statement of Investment Principles (SIP), Climate Policy and this TCFD report, for efficiency, we have incorporated the key information from our climate policy into this document and will only maintain it and the SIP going forward. We reviewed our SIP and investment strategy in conjunction with the investment adviser and LGIM. As a result, the SIP will be updated by the end of the calendar year.
Received independent advice and analysis.	We have received independent advice and training throughout the year. Independently from its work as our investment adviser for the Mastertrust, and using its specialist provider review team, Hymans Robertson assesses the investment propositions of the leading master trusts, looking at a number of aspects, including ESG and climate-aware investing. The metrics for this aspect of the assessment include the degree of integration of responsible and sustainable investing in the investment options, the net-zero targets and the methods of measuring progress against these objectives. Hymans Robertson's provider research team met with LGIM on 10 October 2022 and 24 November 2022 to discuss its investment strategy, including climate considerations and provided regular updates to the IC.

We regularly review and update our governance processes to ensure that the management of CRRO is embedded within all our decision-making.

Case study: Governance in practice

The IC held a specific meeting to focus on climate reporting, including how we overcame barriers to the requirement to include Scope 3 in the TCFD report this year, data coverage issues and the potential to expand the targets for measuring climate impact.

The primary metric used in tracking progress to net zero is currently carbon emissions, though other approaches are reflected in portfolio investment decisions and engagement with companies to drive changes to net zero. We asked LGIM to consider introducing a forward-looking, temperature-aligned target to ensure decisions related to the management of climate risk were considered through a number of different lenses.

Following collaborative discussions involving LGIM's chief investment officer, there was general consensus on this being the direction of travel for future reports.

Training for Trustees, support teams and advisers

We are highly experienced pensions experts who are legally responsible for making all major decisions concerning the efficient delivery of the Mastertrust. Our Board operates independently of Legal & General to challenge and scrutinise the company where necessary. Three of our six Trustees are professional trustee companies.

CRRO, as well as the wider TCFD requirements, form part of the maintenance of our knowledge and understanding and flow into our collective competence and expertise for Mastertrust supervision and fit and proper persons purposes.

We have undertaken additional training on ESG and climate issues within the period to ensure we can sufficiently manage the approach of investment managers in this important area. This includes the following two focused sessions:

11 May 2022 – delivered by Eversheds and LGIM

- TCFD reporting requirements
- Nature-related risks and opportunities
- Transition to net zero
- Stewardship developments

12 Oct 2022 - delivered by Eversheds

- Importance of social factors
- Relevance of equality, diversity and inclusion (EDI) to the Trustees, members and investments (and potential next steps)
- EDI in the TCFD reporting

We are satisfied that our whole Board has the knowledge and understanding of CRRO, particularly those on our IC.

Knowledge levels will continue to be monitored and there will be annual training for our Board. To monitor the individual and collective competence of the Board and identify any training requirements we issue a skills matrix annually. This year, we included the following questions related to TCFD/climate:

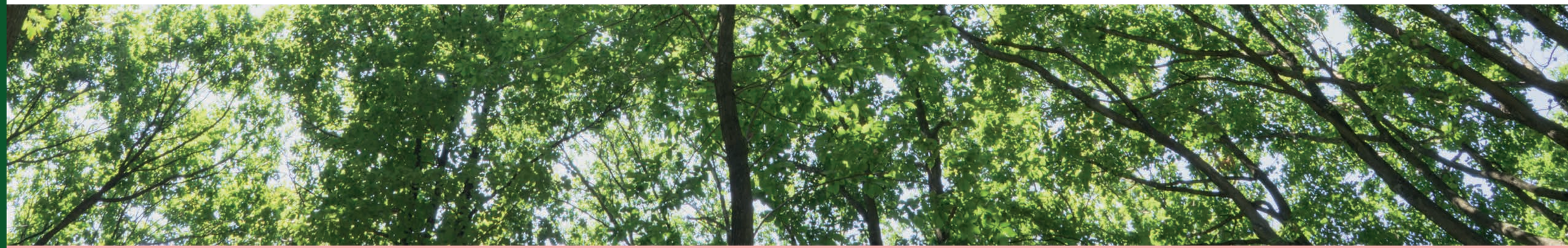
- Awareness and understanding of ESG factors, including the latest developments on key topics such as climate, biodiversity, deforestation and EDI.
- Awareness and understanding of the Task Force on Climate-related Financial Disclosures.
- Knowledge/understanding of illiquid assets and alternative investment options.

We are supported in our climate-related activities by our independent investment and legal advisers. It is a topic evaluated as part of our performance objectives and annual review. We are satisfied that our advisers have the appropriate knowledge of the topic to provide advice on current and emerging matters.

We also have access to the experience and capabilities of LGIM. As described in its 2022 Active Ownership Report, it has over 90 employees with roles dedicated exclusively to ESG activity, and a further 65 colleagues whose roles involve making a substantial contribution to responsible investing capabilities.

As part of our regular Board and IC meetings, we have six-monthly discussions with LGIM's Investment Stewardship team about their policies and challenge LGIM on its voting policies and decisions. We also discuss LGIM's approach to exclusions within the default funds and the triennial review and ask for clarity where this is required.

In addition, through our regular interactions with LGIM, we can sense check its approach to the metrics and targets being used on our behalf.



Section 2

Metrics and targets

Time horizons relevant to the Mastertrust

During the scheme year ending 5 April 2022, we agreed (with support and analysis performed by LGIM) on a roadmap to net zero. It sets out five- and 10-year targets for the reduction of the Scope 1 and 2 carbon-emissions intensity of the default funds (to be rolled forward every five years) against an overarching objective of net zero by 2050 (30 years).

We believe a five-year period is sufficiently tangible to operate effectively as a horizon to set out goals and establish a plan to implement and review, at least annually, the progress made towards those goals. Five years constitutes our 'short-term' time horizon and 10 years is the 'medium-term' horizon.

In setting strategic asset allocations, LGIM (on our behalf) conducted analysis based on long-term expectations and possible outcomes. The current projections in LGIM's energy and climate model (Destination@Risk) extend to 2050 – so 30 years is the 'long-term' time horizon.

The above suggests to us that short, medium and long-term time frames are still best defined as approximately five, 10 and 30 years to understand the Climate-related Risks and Opportunities. These are incorporated into governance frameworks and an evolving investment strategy, reflecting best practice on behalf of DC members.

Data

Key data points

Carbon emissions represent the total greenhouse gas (GHG) emissions, measured in metric tonnes of carbon dioxide equivalents (tCO_2e), emitted by the issuer over a reference year. They include emissions generated from burning fossil fuels and production processes that are owned or controlled by the company. It covers the greenhouse gases of the Kyoto protocol - carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3). For ease of accounting, these gases are usually converted to, and expressed as, CO_2 equivalent tons (tCO_2e). It is calculated using an external data provider, ISS.

LGIM currently provides Scope 1, 2 and 3 carbon emissions; these represent the final value from ISS based on its methodology, which selects the most accurate value from available sources.

The three 'Scopes' are defined by the GHG Protocol Corporate Standard as:

Scope 1: Direct emissions generated from the owned or controlled sources of a company.

Scope 2: Indirect emissions generated from the purchased energy (e.g. heat, electricity) used by a company.

Scope 3: Includes all other indirect emissions that occur in a company's value chain, i.e. the emissions that are generated before (upstream of) or after (downstream of) a company's operations, for example the business travel undertaken by employees. Data quality for Scope 3 emissions is often hampered by poor disclosure and a lack of consistency in the parameters of measurement.

EVIC (Enterprise Value Including Cash) is the sum of the issuer's market capitalisation, total debt and cash for a particular reference year in USD. It is calculated using the enterprise value and cash values from external data provider Refinitiv. Within LGIM, EVIC is used consistently as the denominator for footprint emission calculations for listed equities and corporate bonds. LGIM uses a fixed day, 30 June of the reference year, so that the underlying data for the emissions calculated stays the same for that reference year, unless the data vendor makes corrections at a later point.

For **sovereigns**, LGIM calculates the footprint as the production-based carbon emissions of the issuing country over the total (capital) stock. Total (capital) stock is a measure of the total value of gross fixed capital formation in a country's economy that is comparable to EVIC. The alternative to using total stock is to use government debt, however government debt has no correlation to emissions and creates a wide dispersion between emerging and developed markets, so it is less useful when calculating carbon intensity.

Metric	Asset Type	Calculation	Source	FX Rate Date
Carbon footprint [31 Mar 2023]	Corporates	$\sum \frac{\text{Carbon}[2021]}{\text{EVIC}[30\ \text{Jun}\ 2021]} \text{weight}[31\ \text{Mar}\ 2023]$ tCO_2e/1m Invested	Carbon from ISS, EVIC from Refinitiv	30 Jun 2021 rate for EVIC
	Sovereigns	$\sum \frac{\text{Carbon}[2020]}{\text{Total\_Stock}[\text{Dec}\ 2020]} \text{weight}[31\ \text{Mar}\ 2023]$ tCO_2e/1m Total Stock	Carbon from ISS, Total Stock from IMF	
Total carbon [31 Mar 2023]	Corporates/sovereigns	Carbon_footprint[31 Mar2023] *market_value[31 Mar 2023] tCO_2e	Carbon footprint and market value from LGIM	Carbon footprint as of 30 Jun 2021, market value as of 31 Mar 2023

Implied temperature alignment shows how a company's actions and targets are contributing to global warming outcomes, based on the fair share emissions budgets for the sector(s) in which it operates. There is no expectation that by investing in this company, an investor will meaningfully change the temperature outcome. The metric evaluates performance against the following scenarios:

Metric	Narrative
1.5°C (net zero GHGs)	To reach net zero GHG standards by 2050 globally, all companies must decarbonise extremely rapidly, at an unprecedented scale. This requires all companies, regardless of starting point or sector, to reduce absolute emissions by half by 2030.
2°C	The 2°C scenario is a convergence scenario, in which companies are assessed against a fixed sectoral decarbonisation pathway. Companies with higher emissions today must decarbonise faster than lower emissions peers to meet the sectoral 2°C pathway in 2030.
4.5°C	To reach global warming of 4.5°C, the highest temperature scenario modelled by the IPCC, the world would have to abandon all existing climate targets and grow emissions at a rate that is higher than historical trends. This is not a convergence scenario, as companies can grow their emissions no matter the starting point.
6°C	There is no climate scenario, even from the IPCC, which sets out what a 6°C outcome would entail in terms of emissions growth. This scenario is an upper bound communication device for temperature alignment. It would involve a significant regression towards coal-fired power and result in exponential emissions growth.

Implied temperature alignment is calculated using LGIM's Destination@Risk model, by projecting forward the expected emissions intensity/absolute emissions (dependent on sector) of an issuer to 2030 and comparing this projection to temperature-aligned sectoral decarbonisation pathways. The projection integrates backward-looking trend analysis and probability-adjusted forward-looking targets. The scenarios used to calibrate the sectoral decarbonisation pathways are all orderly scenarios that require smooth and coordinated action towards decarbonisation.

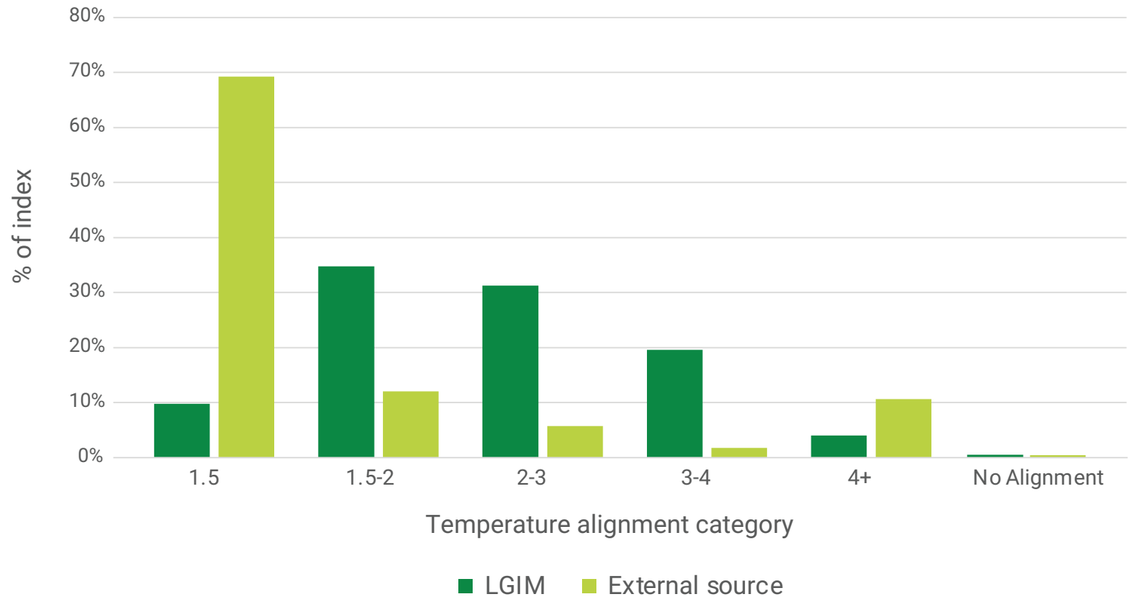
Implied temperature alignment captures significantly more information and insight at a higher resolution about the expected rate of change at the companies and countries to which capital is being provided than a binary metric of the percentage of companies setting Science Based Targets initiative (SBTi) approved targets. It allows us to differentiate between the quality of targets, and to report in a more granular and insightful way on progress over time.

Caution is urged when comparing temperature alignment figures produced by different models. There can be quite some difference in the end output, depending on the model used. The chart below shows, as an example, the calculated temperature alignment for the MSCI ACWI index (a standard market global equity index), the headline figure for temperature alignment calculated as 2.9°C using LGIM's Destination@Risk model, versus a figure of 4°C output from an example external data provider's model. As temperature alignment is carbon-weighted and the external data provider calculates a greater number of securities with higher alignments, the carbon intensities for the 6°C companies push the overall temperature alignment up.

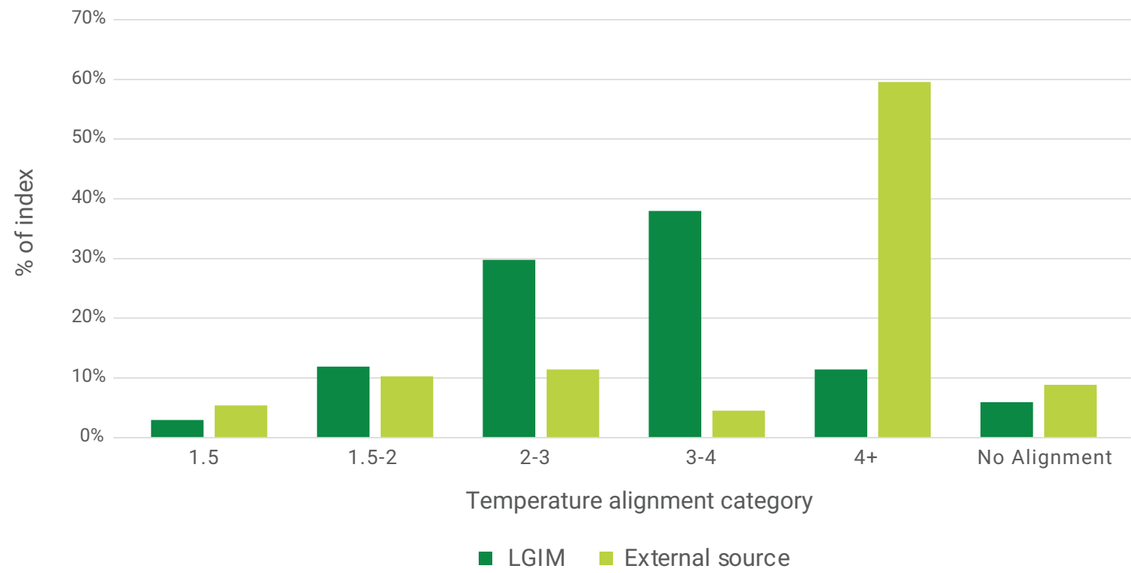
Currently, implemented policies put the world on course for a calculated 2.4°C of warming under 2030 targets[1] (see the temperature alignment section for more information). This means that the average company is unlikely to be aligned with an outcome consistent with below 2°C unless we assume that most, if not all, high-carbon activities are occurring outside of the listed universe. LGIM's temperature alignment metric reflects this. An alignment of 1.5°C is reserved for companies that demonstrate highly ambitious decarbonisation history and/or targets, providing sufficient evidence for us to believe that they can decarbonise at the required rate.

[1] Climate Action Tracker (2022). The CAT Thermometer. November 2022. Available at: https://climateactiontracker.org/global cat-thermometer/ Copyright © 2022 by Climate Analytics and NewClimate Institute. All rights reserved.

MSCI ACWI index, temperature alignment detail, LGIM Destination@Risk compared to an example external data provider, by index PV weights as at 31 March 2023



MSCI ACWI index, temperature alignment detail, LGIM Destination@Risk compared to an example external data provider, by index carbon intensity weights as at 31 March 2023



Where does the data come from?

LGIM has created a data warehouse converting raw data from a few different external providers into key ESG metrics at a fund level. This can drill into the underlying data points, building an understanding of the carbon characteristics, including the biggest contributors to the fund's carbon footprint for individual issuers, by sector and by country.

The metrics are calculated at an individual security level, mapped to positions and then aggregated to fund level. Currently, only corporate (equities and corporate bonds) and sovereign asset types are supported.

Some metrics require a currency conversion because they include a financial element. For example, carbon intensity is based on revenue. Revenue is typically available in US dollars (USD), but needs to be converted to different currencies for specific reporting requirements such as pound sterling (GBP) for TCFD.

Table highlighting key metrics and how these are calculated:

Metric	Scope	Asset type	Calculation	Aggregation	Currency conversion	Missing data assumption
Carbon footprint	1, 2 and 3	Corporates	Carbon emissions divided by EVIC in tCO_2e per 1m invested	Weighted average	EVIC	Weighted average
Carbon footprint	1, 2	Sovereigns	Carbon emissions divided by Total Stock	Weighted average	Total Stock	Weighted average
Total carbon	1, 2 and 3	Corporates	Carbon footprint multiplied by market value of corporates in tCO_2e	Weighted average	EVIC	Weighted average
Total carbon	1, 2	Sovereigns	Carbon footprint multiplied by market value of sovereigns in tCO_2e	Weighted average	Total Stock	Weighted average
Implied temperature alignment	N/A	Corporates, sovereigns	Temperature rise in °C that LGIM projects that the investment in an issuer is aligned with	Carbon-intensity weighted average	N/A	Carbon-intensity weighted average
Climate-related engagements	N/A	Corporates	At least one LGIM engagement over last 12 months with an issuer where climate-related risk and opportunities have been a substantive topic	Count	N/A	Zero

Data coverage and limitations

Although more and more carbon and other ESG data is being reported, data vendors often provide estimates based on their internal methodologies to fill some of the gaps in published data. However, significant gaps remain, either due to the type of assets, for example for real estate, or due to the complexities in applying data to more advanced financial instruments, such as derivatives.

By providing the following quality indicators for funds, LGIM offers as much transparency as possible about data quality while continuing to address existing limitations.

Eligibility: the proportion of the holdings for which LGIM can calculate ESG metrics. This is currently the case for corporate and sovereign asset types.

Coverage: the proportion of the eligible holdings for which LGIM has either estimated or reported data. This is sometimes referred to as total coverage, as opposed to eligible coverage.

Eligible coverage: the coverage relative to the eligible proportion of the fund.

Missing/Not available: the proportion of the covered holdings for which LGIM has no data.

LGIM's data team works closely with external vendors to source the most appropriate data inputs. A number of materiality and sensitivity controls are in place to ensure sufficient carbon data quality. Tolerance checks are also implemented to validate the periodic change in the fund level carbon metrics.

To provide carbon reporting on a fund, the following thresholds need to be met:

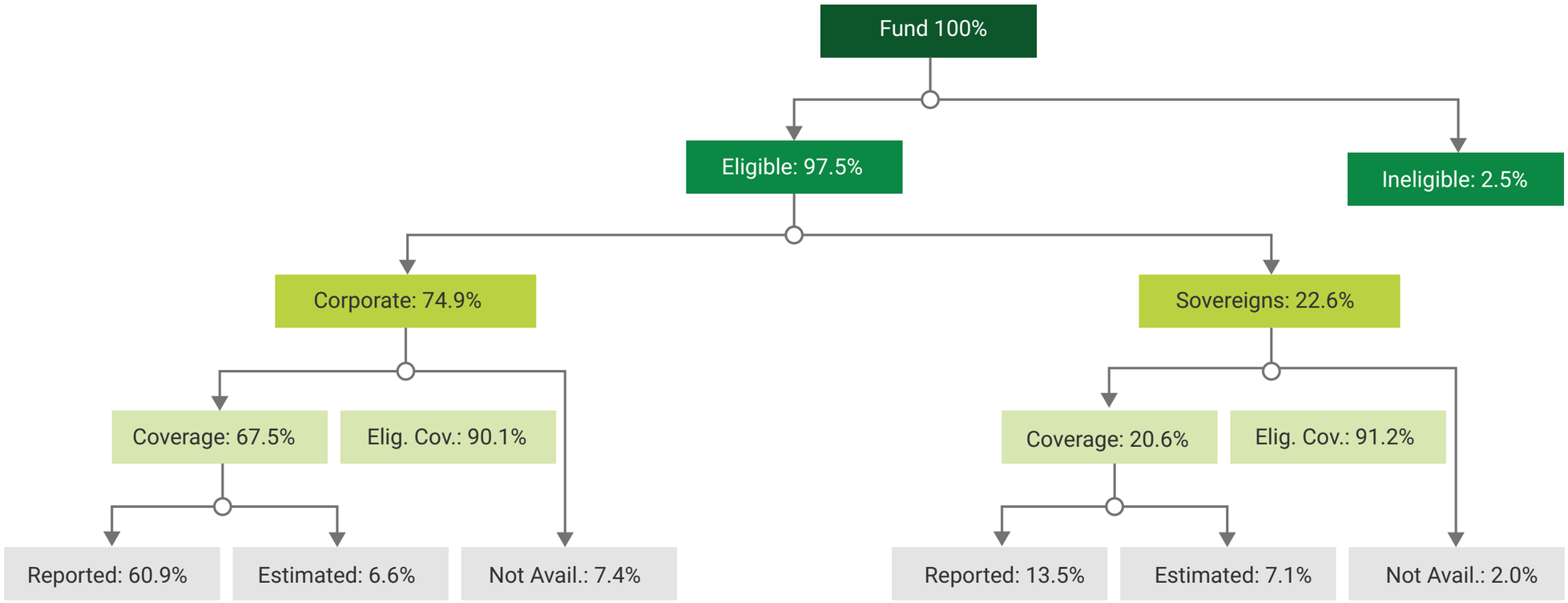
- the assets eligible for coverage need to be greater than 50% - this is calculated using the value of securities for which we have carbon emission metrics as a percentage of a fund's assets under management; and
- carbon coverage of the eligible assets needs to be greater than 60%.

Please note that where meeting regulations requires LGIM to publish the data regardless of the coverage and eligibility, such as with TCFD, this threshold requirement will be removed.

Currently around 95% of eligible asset classes (equity, sovereigns, corporate bonds) are reported.

Scope 3 emissions are purely focused on corporate securities. And as detailed earlier in this report, the coverage has a higher proportion derived from modelled estimates rather than reported data.

The following diagram shows an illustrative breakdown of fund holdings and the relationships between the quality indicators.

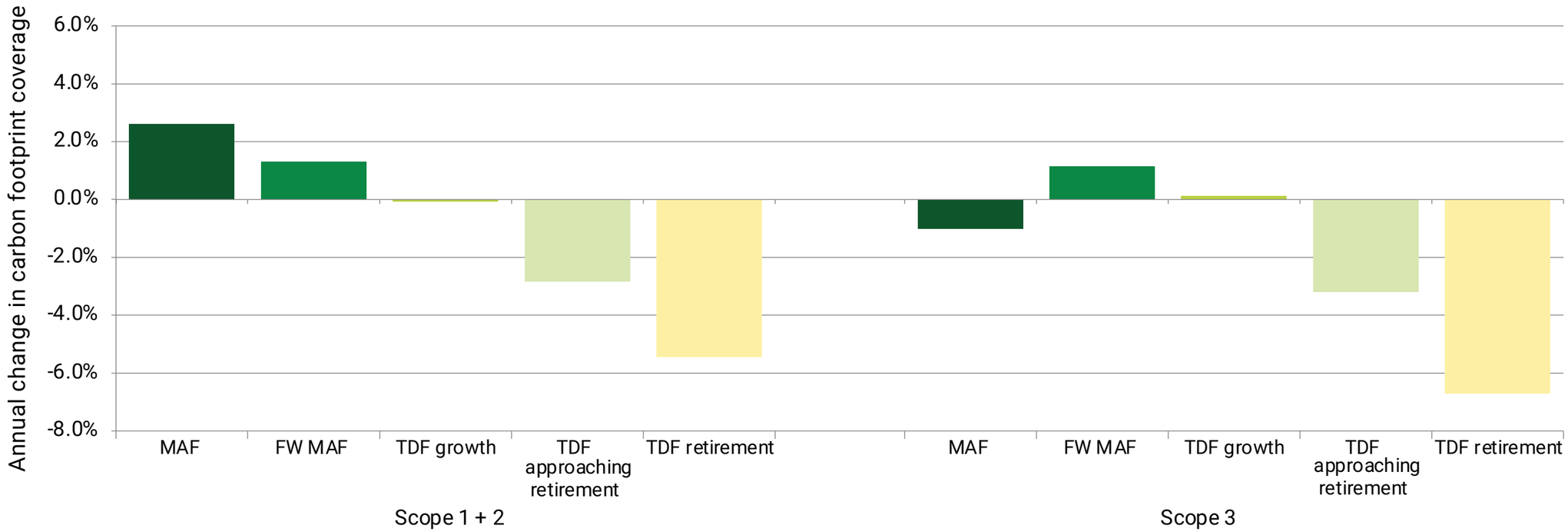


Missing data

In order to interpret the metrics LGIM calculates, it is important to understand how missing data is treated. The key principle here is that missing values are not assumed to be equivalent to zero. Instead, they are excluded from the calculation. Before any aggregates are calculated, positions for which there are no data are discarded, i.e. they are not covered, or an appropriate calculation methodology has not been implemented, i.e. they are not eligible.

The weights of the portfolio are rescaled as if based solely on held positions that are covered and eligible. Only then are aggregates calculated. This approach is mathematically equivalent to assuming missing data to be the same as the weighted average. Treating the data gaps in this way may not be intuitive, but LGIM believes that this is a better approach than assuming missing data to be zero, since the method results in higher and generally more realistic numbers at the aggregate level.

For the Legal & General default funds, the chart below shows the annual change in coverage of the carbon footprint metric from 31 March 2022 to 31 March 2023.



Overall, there have been small changes, both positive and negative, with the Target Date Fund retirement stages experiencing the largest drop in coverage. This drop can be explained by the change in underlying asset allocation as the Target Date Funds move through their glidepath.

A fall in the allocation to the Future World Multi-Asset Fund (with relatively high coverage), and an increase in allocation to the Retirement Income Multi-Asset Fund, Future World Inflation-sensitive Pre-retirement Fund, Net Zero Short-dated Credit Fund, Short-dated Credit Fund and Sterling Liquidity Funds, all with lower coverage, has led to the overall drop we see when comparing 2022 coverage to 2023.

At what date is the data taken?

The **reference year** is the calendar year for which emissions and other ESG input data points are reported. The reporting cycle for emissions typically aligns with the issuers' financial year. Some financial years do not align with calendar years, but for comparability, we associate the financial year with the main calendar year of the financial reporting period.

Due to the lengthy process of collecting, publishing and sourcing carbon emissions, figures for corporates are currently lagging by up to two years, and for sovereigns by between three and four years.

Case study: Scope 3 emissions

Scope 3 covers all the emissions not accounted for in the direct emissions or indirect emissions from purchased energy from company operations, and it is a vital tool for measuring decarbonisation progress at a systems level. Inadequate disclosure may blind stakeholders to efficient decarbonisation options and transition risk. Yet today's data quality makes the use of Scope 3 challenging for investors. Company trends and relative positioning are more likely to be driven by methodology than the real world. Lower Scope 3 emissions relative to a peer is just as likely to mean 'less complete disclosure' as it is 'better for climate'. LGIM is advocating improved and standardised Scope 3 disclosure to facilitate comparisons between similar companies, and the same company across time, allowing for meaningful insights to be drawn.

Measuring the risk is a crucial first step that will allow investors to price climate risks – and therefore allocate capital – appropriately. Measuring corporate emissions is challenging. Estimates suggest that Scope 3 accounts for over 80% of total emissions in the median MSCI World company. Across the 23 in-scope funds this year, Scope 3 emissions currently account for around 88% of overall emissions. If investors are to be able to properly price climate risk and opportunities, and allocate capital efficiently, there needs to be widespread disclosure of Scope 3 emissions.

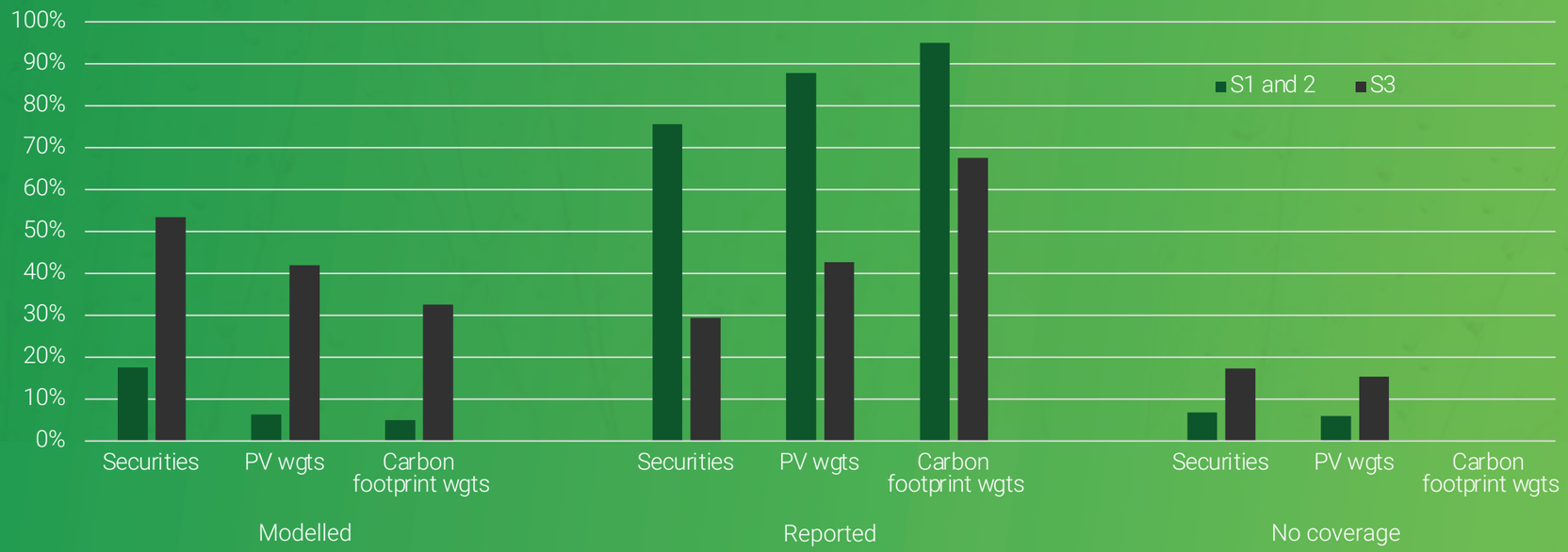
By calculating Scope 3 emissions, corporates deepen their understanding of the highest-emitting parts of their value chain and gain important insight into their exposure to transition risks. This should inform better decision-making and foster robust risk-management practices and strategies to cope with, and capitalise on, a net-zero transition.

However, there are a number of complex challenges around Scope 3 emissions that require careful handling.

1. Despite the complexity, companies should report on, and regulators support the disclosure of, accurate and standardised Scope 3 emissions data. Asking a company to make an accurate calculation of its Scope 3 footprint is going to be challenging and complex. However, we still believe it is crucial.

2. Currently available Scope 3 data should only be incorporated into investment decisions with careful consideration of inaccuracy, estimation bias, and methodology constraints. Scope 3 reporting is maturing in both coverage and, to an extent, quality. However, investors are still currently forced to supplement reported data with estimates from third parties. LGIM's internal evaluation of these methodologies raises some concerns that estimates are highly uncertain; and we are not confident that the quality of the data available today is sufficiently high for use without internal specialist knowledge and expertise. However, it is likely to improve rapidly, and should start to be incorporated further into analytical and reporting processes. LGIM is actively working on its approaches and engaging with data providers on these developments, as well as with companies on their reporting.

Target Date Funds, growth stage (2065-2070 cohort), reported source of data for Scopes 1, 2 and 3 emissions, as at 31 March 2023



3. Scope 3 emissions should be treated separately from Scopes 1 and 2 – and ideally should separate upstream from downstream emissions within Scope 3, which are very clearly distinct. Given this, and the largely non-comparable nature of downstream emissions versus midstream and upstream, LGIM believes companies should be asked to set targets on these two halves of Scope 3 separately. The following charts illustrate the current discrepancy in data sources and hence reliability, and the differences in underlying reported data coverage between regions and industry sectors.

Future improvements

Additional asset class coverages are being considered for LGIM's 2024 roadmap (derivatives, real assets, supranational and private equity) in line with regulatory obligations, noting that the integration of additional data sources, methodologies and tools is required. Currently, LGIM is reporting around 95% of eligible asset classes (equities, sovereigns, corporate bonds) for all LGIM managed funds.

Assets managed by external managers, i.e. not held by LGIM, are excluded from all metrics, and will continue to be so for the foreseeable future. However, our external investment adviser undertakes regular due diligence of all external fund managers. This includes assessing their ESG credentials. For more information, please see section 1.

Metrics

There are 23 funds that fall within the scope of this year's TCFD reporting requirements, the key metrics for which are detailed in the table below. The key metrics and underlying methodologies have not changed since last year.

The table is focused on Scope 1 and 2 emissions categories. Scope 3 information is shown in a separate table in the Appendix.

Funds in scope

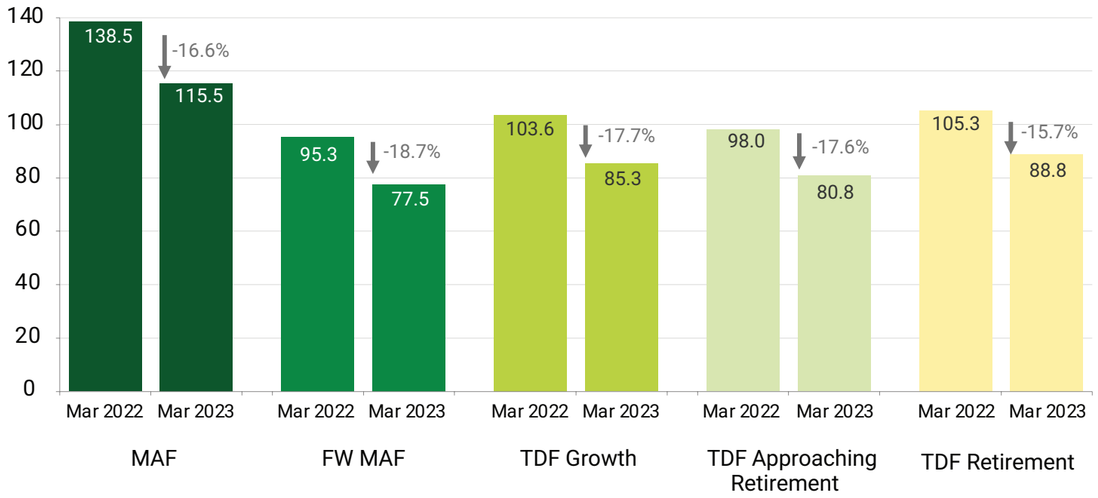
Fund	AUM £m	Total carbon emissionsTCO_2e	Carbon footprint, (Tonnes CO_2e per £1m EVIC) Corps and Sovereigns	Coverage %	Temperature alignment °C	Coverage %	Climate engagement %
L&G PMC Multi-Asset Fund 3	3,853	444,969	115.5	88.4	2.74	85.3	12
L&G PMC 2020 - 2025 Target Date Fund 3	594	52,741	88.8	65.3	2.71	63.7	15
L&G PMC 2025 - 2030 Target Date Fund 3	1,237	99,871	80.8	79.4	2.67	77.0	13
L&G PMC 2030 - 2035 Target Date Fund 3	1,542	119,387	77.4	88.5	2.68	85.3	13
L&G PMC 2035 - 2040 Target Date Fund 3	1,575	131,552	83.5	90.0	2.75	87.4	13
L&G PMC 2040 - 2045 Target Date Fund 3	1,330	112,153	84.3	90.1	2.75	87.6	13
L&G PMC 2045 - 2050 Target Date Fund 3	1,204	102,697	85.3	91.7	2.81	89.7	12
L&G PMC 2050 - 2055 Target Date Fund 3	961	81,949	85.3	91.9	2.81	90.0	12

Fund	AUM £m	Total carbon emissionsTCO_2e	Carbon footprint, (Tonnes CO_2e per £1m EVIC) Corps and Sovereigns	Coverage %	Temperature alignment °C	Coverage %	Climate engagement %
L&G PMC 2055 - 2060 Target Date Fund 3	624	53,239	85.3	91.9	2.81	90.0	12
L&G PMC 2060 - 2065 Target Date Fund 3	240	20,450	85.3	91.9	2.81	89.9	12
L&G PMC 2065 - 2070 Target Date Fund 3	21	1,756	85.3	91.9	2.81	89.9	12
L&G PMC 2070 - 2075 Target Date Fund 3	0	32	85.3	91.9	2.81	89.9	12
L&G MT Future World Multi-Asset Fund	391	30,353	77.5	88.8	2.68	85.6	13
L&G PMC Cash Fund 3*	170	68	0.4	47.2	2.80	5.8	27
L&G PMC UK Equity Index Fund 3	144	15,569	107.8	92.8	2.50	92.0	33
L&G PMC World (Ex-UK) Equity Index Fund 3	316	23,116	73.2	100.1	2.81	99.9	13
L&G PMC Global Eqty Fixed Weights 50:50 Index Fund 3	303	29,487	97.4	96.3	2.63	95.8	23
L&G PMC Retirement Income Multi-Asset Fund 3	206	24,600	119.3	69.8	2.79	68.0	11
L&G PMC All World Equity Index Fund 3	220	18,887	86.0	99.7	2.86	99.5	14
PB Composite Global Equity Index Fund	182	15,111	83.0	97.9	2.73	97.5	19
Employer D^ Corporate Bond Fund	241	8,977	37.3	95.5	2.53	95.3	23
Employer D^ Diversified Fund	487	50,720	104.1	60.1	2.71	58.2	14
Employer D^ Growth Fund	1,426	88,345	62.0	77.7	2.72	76.7	11

Please note that the table of metrics above will not be directly comparable to the table in last year's report. For this year's report data is expressed in pound sterling for all eligible assets. Metrics are also provided across both corporates and sovereigns.

* Proxied by Sterling Liquidity Fund, given very low (sub 1%) coverage of the L&G PMC Cash Fund 3
^ Funds hold a portion of assets managed by fund managers external to LGIM

Carbon footprint of Legal & General default funds, tonnes CO_2e per £1 million EVIC, change from 31 March 2022 to 31 March 2023:



Over the last year there has been a reduction in the reported carbon footprint of all default funds. The reduction across the defaults can be broadly attributed to the following three factors, to varying proportions based on the different assets held by each default:

1. Aspects of the calculation methodology

As noted in the data section of this report, the carbon footprint metrics shown in the table above as at 31 March 2023 are calculated using an EVIC value as at 30 June 2021. Large changes in the value on this date, compared to a year earlier, will have a knock-on impact on the overall carbon footprint calculated. The median increase in EVIC across all issuers moving from 2020 to 2021 was 21%, and 18% on a carbon-weighted basis focused on the top 500 issuers. Looking ahead to next year's report, we know that there have been broad falls in EVIC values to 30 June 2022, and so anticipate that the impact of this may well be a reversal of some of the 'gains' documented in the current reporting period.

Relative changes in EVIC between industry sectors has also had a positive impact, with energy sector EVIC values increasing compared to other sectors. The impact of this will differ by fund, depending on the relative size of this sector's allocation within the overall fund holdings.

2. Changes in coverage

Over the year, there has been a relative increase in the coverage of financial sector holdings, given their very low (Scope 1 and 2) footprint. This has contributed to an overall decrease in the calculated carbon footprint of funds in scope, with a greater impact for those funds with higher credit allocations.

3. Changes in portfolio allocations and holdings

Strengthening of key policies

The Future World Protection List is a key Legal & General ESG exclusion list, specifically developed for LGIM's Future World Fund range, but also in use across other select funds. The Future World Protection List is a set of exclusions based on companies that fail to meet either globally accepted principles of business practice, or whose business is incompatible with a low-carbon transition.

The list includes perennial violators of the UNGC, companies with involvement in the manufacture and production of controversial weapons and companies involved in the mining and extraction of thermal coal, thermal-coal-power generation and oil sands, where they generate 20% or more of revenues from these activities.

The threshold was strengthened (lowered) in June 2022, as it had previously been set at 30%. The result has been an increase in the number of companies that now fall outside the investible universe for funds that adhere to this policy[2].

Changes to (fund-specific) investment strategy

Within the Multi-Asset Fund, the sustainable infrastructure basket now reflects 20% of the total allocation to infrastructure. There is also wider application of key ESG exclusion policies, such as the Future World Protection List mentioned above, and the Climate Impact Pledge, with these applicable to 84% of the corporate securities held within the overall portfolio as at 31 March 2023. This figure includes changes to widen the reach to also apply to small-cap equity holdings and investment-grade corporate bonds, due to complete at the end of Q4 2023.

Within the Future World Multi-Asset Fund, the sustainable infrastructure basket as at 31 March 2023 reflected 60% of the total allocation to infrastructure, and has since increased to 100% of listed infrastructure. This has resulted in a carbon emission footprint that is more than 50% lower when compared to a standard index on that basket, as well as a substantially lower temperature alignment, and higher 'green' revenue exposure.

The fund also transitioned its listed real estate holding to a new LGIM 'green' real estate index strategy in Q1 2023, which tilts the constituent holdings in line with a score reflecting their share of green buildings, water and energy conservation initiatives and their consideration of lifecycle carbon in building design and construction. The new fund also applies Future World Protection List exclusions and Climate Impact Pledge divestments.

All Future World equity indices have decarbonisation baked into their index construction, set at a reduction of 7% per annum, ensuring progressive decarbonisation occurs over time.

[2] https://www.lgim.com/landg-assets/lgim/_document-library/capabilities/future-world-protection-list-public-methodology.pdf.
A few exceptions apply for companies that have set out clear Paris-aligned plans for phasing out coal by specific dates, dependent on where they are based, and for companies with non-coal subsidiaries, LGIM retains the ability to fund specific issuing entities.

Within the Target Date Funds, there have been quite a few changes to the underlying building block funds used in differing proportions by each of the stages.

The Diversified Equity Fund, used by younger savers, now uses Future World index funds, enforcing the minimum standards adherent with the application of the Future World Protection List and Climate Impact Pledge, as well as enhancing ESG credentials further by tilting capital towards companies scoring more highly from an ESG perspective. The small-cap equity allocation within this fund does not apply the tilting, but will apply the enforcements from May 2023.

The L&G PMC Future World Inflation Sensitive Annuity Aware Fund 3, used by savers closer to retirement, has similarly integrated enforcement of the same minimum standards and ESG tilting. This has resulted in an initial c.35% reduction in carbon emissions for the fund.

The new L&G Net Zero Short Dated Global Corporate Bond Fund has also been introduced, again for savers closer to retirement. 50% of the existing allocations to an existing short-dated credit fund were switched into this newly launched fund in February 2023. The new fund had around a 50% lower carbon footprint than the existing fund as at 31 March 2023.

In 2021, LGIM publicly announced net-zero ambitions by 2050, with interim targets set for each of the main default funds reducing their carbon footprint by a range of 25% to 50% by 2025, and by a further 15% to 25% by 2030. Further detail on current progress against these is provided in the table on page 23. Needless to say, we, and LGIM, are not resting on our laurels when it comes to progress on the overall ambition of being net zero by 2050.

Looking to the future, LGIM is strengthening its ESG credentials by focusing on these key areas:

Engagement

LGIM recognises that change is a journey that is typically delivered in steps rather than leaps. It believes that constructive engagement with companies and policymakers is the best way to deliver this long-term, systemic change. Indeed, it celebrates those that take action to improve ESG outcomes. But those that do not engage, or take heed of its drive for minimum standards, will find that it will use a range of stewardship tools to push for a better ESG outcome. These include voting against specific resolutions and directors at companies or, as a last resort, withholding investment while continuing to engage. LGIM's engagement efforts apply to 100% of the Legal & General Mastertrust default funds, and all LGIM managed funds.

Highlights from LGIM's environmental thematic engagements during 2022[3]

Climate & nature: sustainable agriculture

- Agriculture is key to the net-zero transition
- Collaboration with FAIRR, calling on global leaders to develop science-based roadmap for sustainable agriculture
- COP27: announcement by UN FAO to publish such a roadmap, setting out goals and targets

LGIM policies: deforestation

- LGIM deforestation policy: commitments on assessment, disclosure & reporting
- Deforestation campaign: contacting ~ 300 companies
- Collaborative work with IPDD^

Broadening our Climate Impact Pledge

- Expanded in October 2022 to cover around 5,000+ companies
- across 20 climate-critical sectors
- and in-depth engagement with 100+ companies

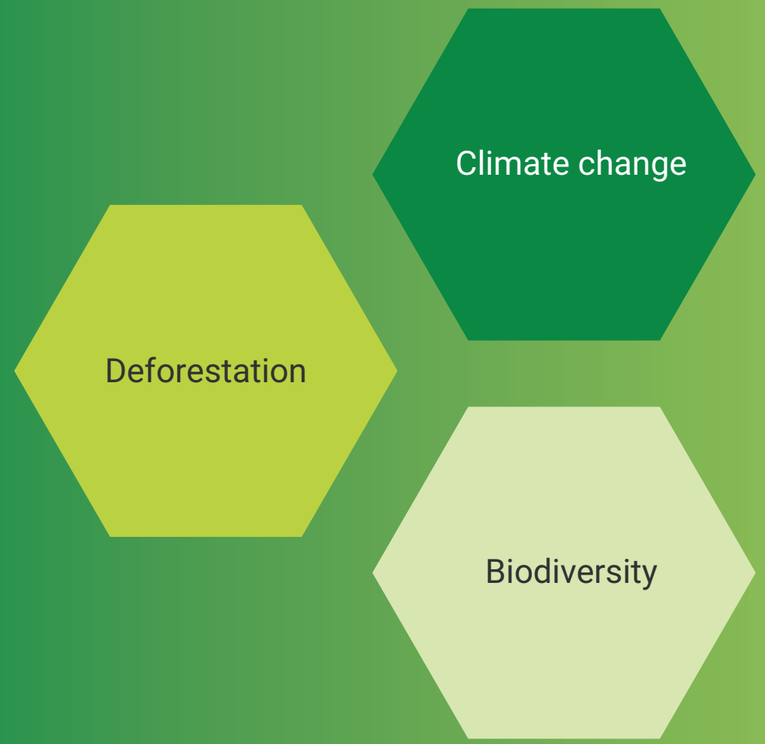
'Say on Climate' votes

- We voted on 48 companies' 'Say on Climate' votes in 2022
- Of these, we supported roughly one third, including BP* and Holcim*
- Of climate-related shareholder proposals, we voted on 99, of which we supported 77

Shareholder resolution co-filing: Glencore*

- Our concerns regarding its thermal coal exposure and future plans led us to vote against their climate transition plan at the 2022 AGM
- Co-filing a shareholder resolution, requesting disclosure of how Glencore's thermal coal production aligns to its Paris-aligned emissions targets

Our Global Stewardship Themes



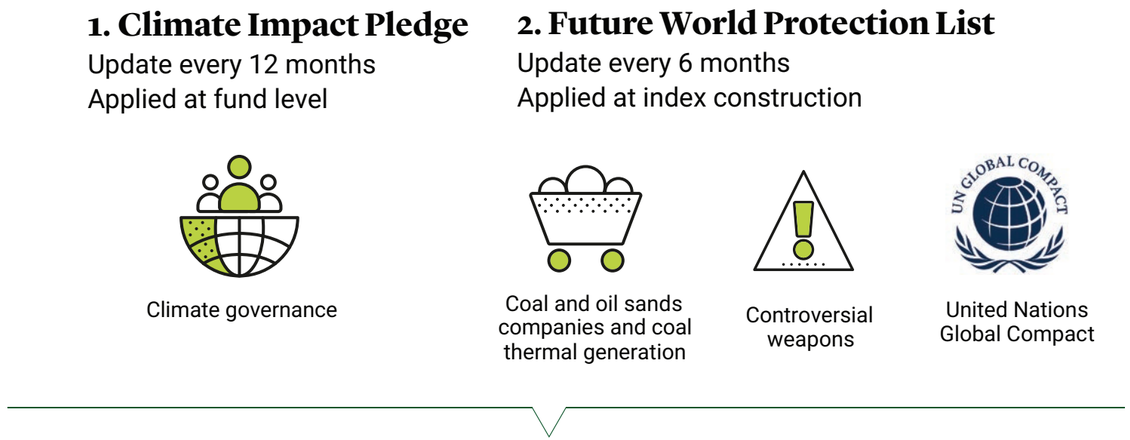
[3] Source: LGIM, April 2023, covering calendar year 2022.

^ IPDD = Investors Policy Dialogue on Deforestation.

* Companies mentioned are for illustrative purposes only. Reference to a particular security is on an historical basis and does not mean that the security is currently held or will be held within an LGIM portfolio. The above information does not constitute a recommendation to buy or sell any security.

Exclusions

LGIM has long prioritised company engagement over exclusion. Through its approach to active ownership, it has sought to improve companies' standards by engaging with them and using its voice. However, when combined with engagement and voting, targeted exclusions can also be a very powerful tool. LGIM's set of exclusions are based on companies that fail to meet either globally accepted principles of business practice, or whose businesses are incompatible with a low-carbon transition. These exclusions are applied in varying proportions to all the Legal & General Mastertrust default funds.



Climate Impact Pledge

LGIM's Climate Impact Pledge is a two-fold engagement programme structured around the Task Force of Climate-related Financial Disclosures (TCFD) framework. Each stream (quantitative and qualitative) has different inputs, approaches, escalations, and potential sanctions. It focuses on 20 climate-critical sectors, which are responsible for the most global greenhouse gas emissions from listed companies and/or vital to climate transition at scale, as well as the most carbon-intensive sectors in LGIM portfolios.

Within the qualitative stream, over 5,000 companies in climate-critical sectors are assessed, with their results published on LGIM's dedicated Climate Impact Pledge score website. Company assessments focus on the five key pillars in alignment with the TCFD framework, using around 70 data points which leverage LGIM's climate modelling as well as third-party data. A traffic light system compares companies' climate disclosures and performance using defined data points, with some highlighted as 'minimum standards' (linked to voting).

Within the quantitative stream, LGIM may vote against the company's chair of the board if:

- the company fails to meet at least one – or, in North America, Europe, UK and Asia Pacific ex Japan, three – of LGIM's minimum standards;
- has a market capitalisation above the relevant sector median; and
- does not have ambitious greenhouse gas emissions targets and/or net-zero targets.

In addition to this broader quantitative stream, building on LGIM's data-based analysis, it engages in direct dialogue with and qualitative assessment of around 100 'dial-mover' companies, selected for their size and potential to galvanise action in their sectors. For companies within this quantitative stream, those failing to meet LGIM's minimum standards may be subject to voting sanctions and/or divestment from LGIM funds that apply the Climate Impact Pledge exclusions.

During the 2023 proxy season, 299 companies out of the quantitative universe of over 5,000 were identified as subject to voting sanctions for not meeting LGIM's minimum climate change standards. In addition to these quantitative voting sanctions, it identified 29 of its qualitative stream 'dial-mover' companies as being subject to a vote against, with 12 companies remaining on its existing exclusion list, two additional companies being added to the list for failing to meet expectations, and successful engagement leading LGIM to reinstate one previously divested company.

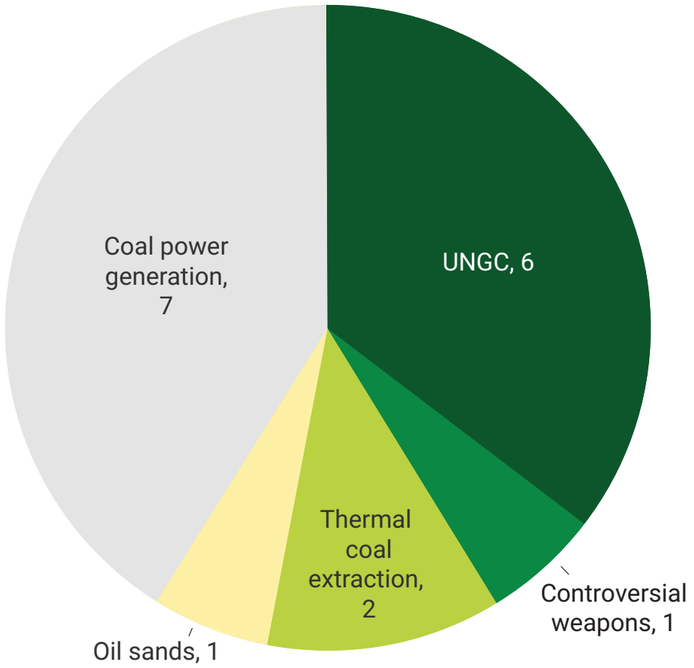
Future World Protection List

The list is updated semi-annually, effective in impacted portfolios in May/November. As of May 2023, 400 companies formed part of the Future World Protection List. Since November 2022, 16 companies have been removed from the list, while 15 new companies have been added.

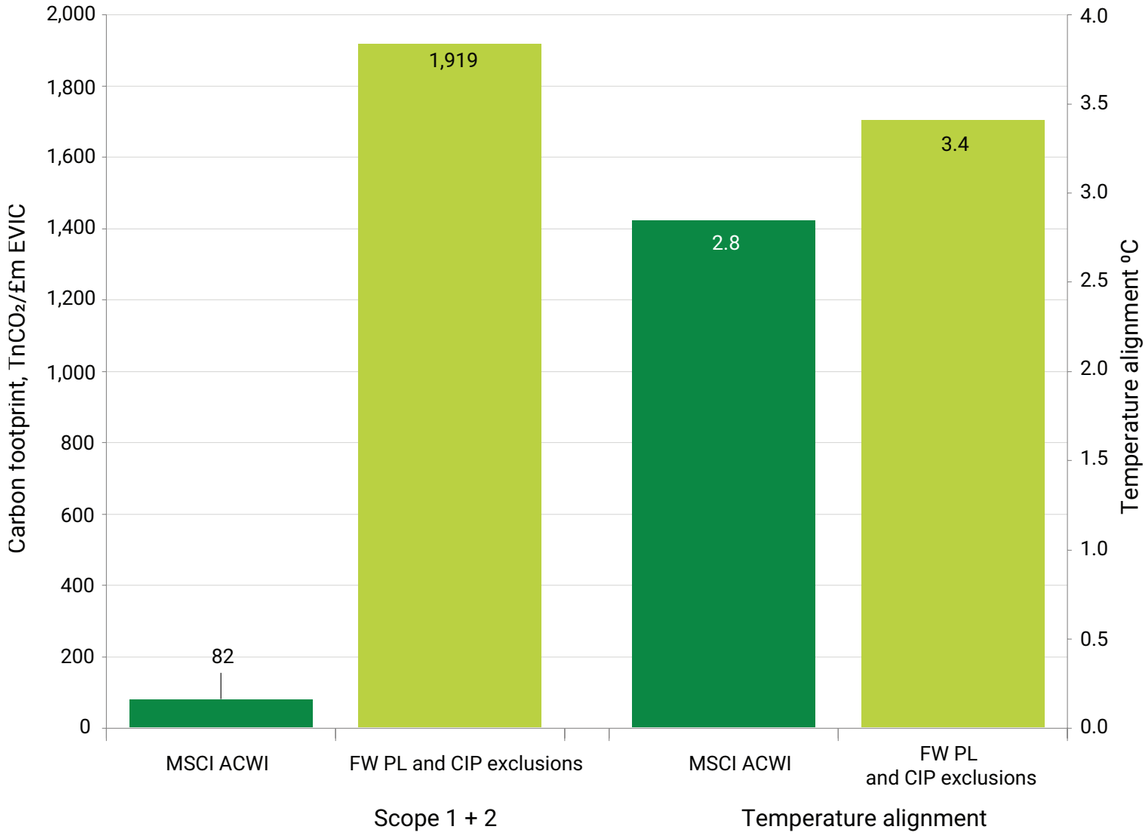
Categories	Nov 22	May 23
Coal companies	269	270
Controversial weapons companies	43	42
UNGC violators	110	111
Total	**401****	**400****

** Companies can screen for more than one category (coal exclusion, controversial weapons list and UNGC violator). The total number excluding duplicates.

New additions as at May 23



Relative carbon footprint – combined current disinvestment company list from Future World Protection List and Climate Impact Pledge versus MSCI ACWI, tonnes CO_2e per £1 million EVIC, Scope 1 and 2 emissions, as at 31 March 2023



Enhancement

Efficient index investment with ESG tilts

Index weightings are 'tilted' according to ESG scores to allocate more money to companies doing well from an ESG perspective, and less to low-scoring companies. This method goes further than just congratulating the companies with the highest ESG scores. The scores are generated from public information and are aligned with LGIM's engagement and voting activities. They are also public, creating a powerful incentive for companies to improve their behaviour. ESG tilts are used within the Legal & General Mastertrust default funds of the Future World Multi-Asset Fund and the Target Date Fund series.

About 62% of the Future World Multi-Asset Fund as at 31 March 2023 was held in ESG-tilted Future World indices. These tilts provide a significant impact on carbon intensity, with around a 50% reduction at the outset, compared to a non-tilted benchmark. ESG-tilted Future World equity indices additionally target an ongoing objective of a 7% year on year reduction in their (Scope 1 and 2) carbon footprint. As at May 2023, 34 ESG data points from five external data providers fed into the generation of an overall ESG score for more than 17,000 companies.

Scope 1 and 2 carbon footprint. As at May 2023, 34 ESG data points(4) from five external data providers fed into the generation of an overall ESG score for more than 17,000 companies.

LGIM ESG Score

LGIM E score (Environmental)

Emissions & Transition

1. Carbon emissions intensity (S1 & 2)
2. **Value chain emissions intensity (S3)**
3. Temperature alignment
4. Green revenues
5. Carbon reserve intensity

Nature

6. Biodiversity programme
7. **Deforestation programme**
8. **Water management programme**

LGIM S score (Social)

Social diversity

9. Women on the board
10. Women at the executive level
11. Women in management
12. Women in the workforce

Human capital

13. Bribery and corruption policy
14. Freedom of association policy
15. Discrimination policy
16. Supply chain policy
17. Employee incidents
18. Business ethics incidents
19. Social supply chain incidents

LGIM G score (Governance)

Board composition

20. Independent chair
21. Independent directors on the board
22. Board tenure

Governance oversight

23. Non-audit fees paid to auditor
24. Audit commitee expertise
25. Audit opinion
26. **Lobbying activities**

Investor rights

27. Free float
28. Equal voting rights

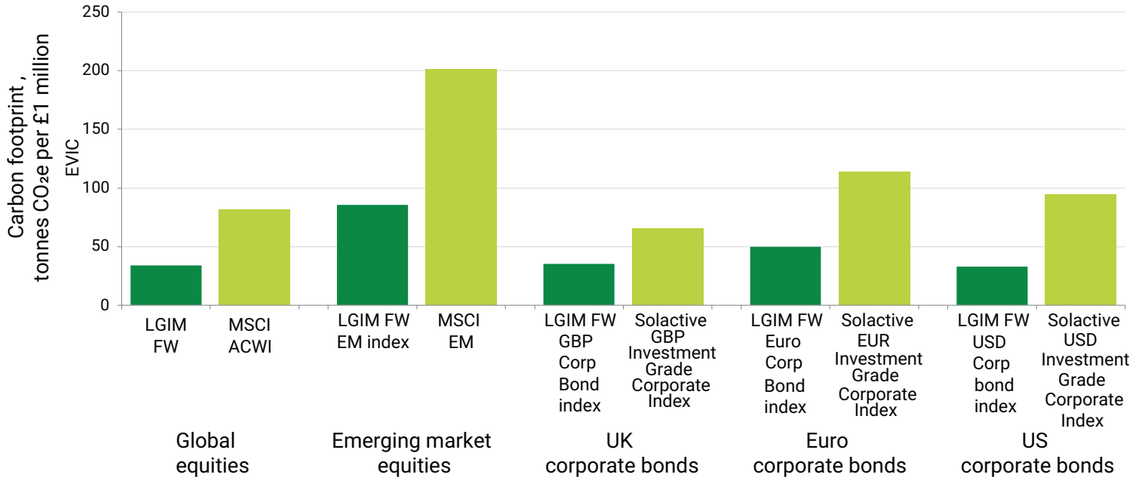
LGIM T score (Transparency)

Transparency

29. ESG reporting standard
30. Verification of ESG reporting
31. Scope of GHG emissions
32. Tax disclosure
33. Director disclosure
34. Remuneration disclosure

[4] Green metrics added May 2023

The impact of Future World tilting on carbon footprint, Future World versus market cap index funds, tonnes CO^2e per £1 million EVIC, Scope 1 and 2 emissions, as at 31 March 2023



Positive selection baskets

Extending the approach beyond ESG-tilted indices, positive selection baskets are used when there are no suitable index, or active building block, funds available.

Example of corporate security positive selection baskets in use across the Legal & General Mastertrust default funds as at 31 March 2023

Basket	Detail
Farmland and timber	Listed companies owning forestry assets. Basket screened for compliance with industry best practice standards
Sustainable infrastructure	• Renewable energy generators • Clean water utilities • Sustainable networks – electricity grid, transportation, communication
Social purpose real estate	Listed real estate that provides social services for communities e.g., housing, healthcare and education

Outside of corporate securities, allocations are also held within the Legal & General Mastertrust default funds to green sovereign bonds, as well as supranational, sub-sovereigns and agency (SSA) bonds. A growing share of the latter have put aside some of their proceeds for environmental or social purposes.

Looking ahead

Assessing progress to date on our collective journey towards net zero, it is clear that more needs to be done, and quickly, in order to keep us on track. Only a minority of companies are decarbonising fast enough to meet the Paris goals and LGIM Destination@Risk analysis shows an ever-increasing cohort aligning with an above 2°C outcome.

Share of listed corporates' emissions	2011	2020	2030
Aligned with above 2°C outcome	75%	83%	87%
Aligned with below 2°C outcome	25%	17%	13%

When thinking through areas of future focus, the key to continuing to meet fund specific ESG objectives and targets aligning with a below 2°C outcome will be engaging with the laggard companies currently missing out on the opportunities created by the transition and at a significant risk of financial loss if they don't adjust their trajectory.

Another area of focus will be on identifying opportunities driving the future structural and foundational changes required in our lives, workplaces and in broader society. Future opportunities will share several characteristics, including disrupting and challenging traditional sectors and industries, structurally changing how we live and work and adopting increased efficiencies. These strategies are still in the early stages but have immense growth potential to transform our world if they are successful. Three broad areas in which themes are emerging are technology, demographics and energy and resources.

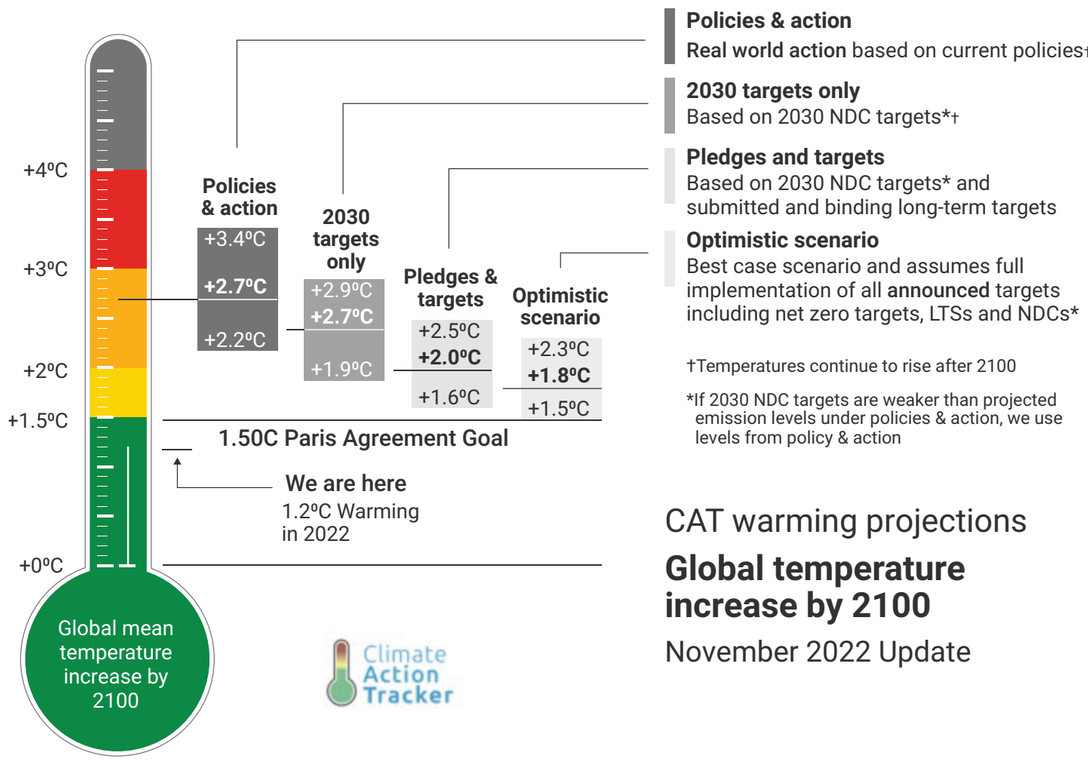
Total carbon emissions

As at 31 March 2023, the total (Scope 1 and 2) carbon emissions of all in scope funds was 1,526,017 tonnes. Over the last year, a number of funds have moved in scope, and some fell out - it is therefore not as simple as comparing one year's figures to another to judge the extent of any progress made over the period. Total emissions will rise and fall over the year, driven by AUM flows in and out of in-scope funds, and be affected by changes in the reported carbon footprint (intensity) of the funds being invested in.

Temperature alignment

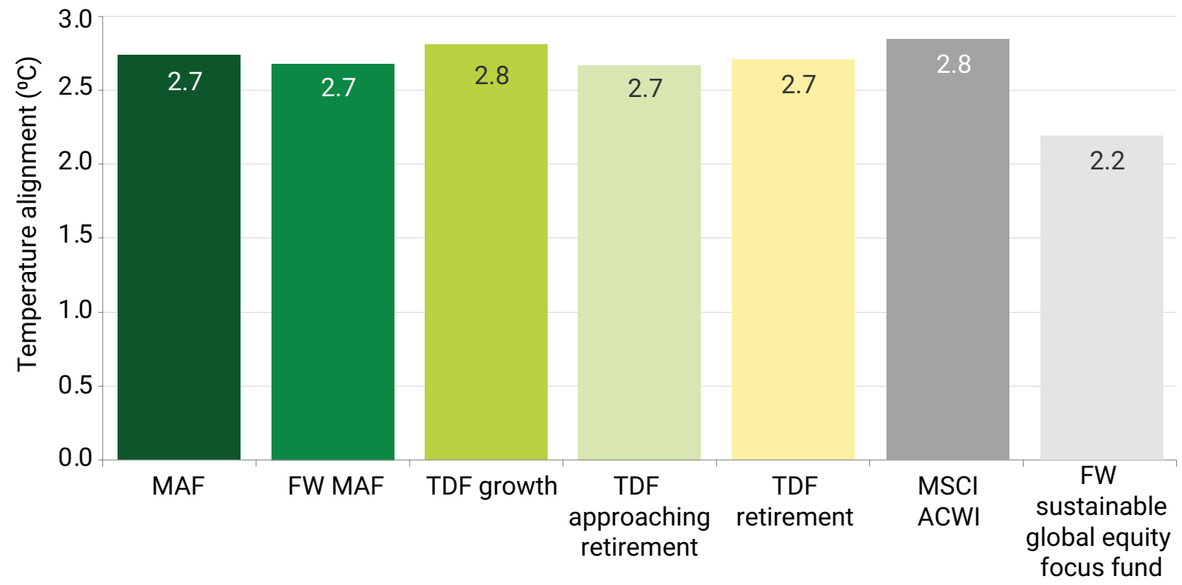
The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015 and entered into force on 4 November 2016. Its overarching goal is to **hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.**

However, in recent years, world leaders have stressed the need to limit global warming to 1.5°C by the end of this century. That's because the UN's Intergovernmental Panel on Climate Change indicates that crossing the 1.5°C threshold risks unleashing far more severe climate change impacts, including more frequent and severe droughts, heat waves and rainfall. To limit global warming to 1.5°C, greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030.



The temperatures on the Climate Action Tracker (CAT) thermometer are 'median' warming estimates in 2100. This means that there is a 50% chance that the calculated temperature would be exceeded if the modelled emissions pathway is followed. The world is heading for a calculated 2.4°C of warming under current 2030 targets. There have been no substantial improvements of existing net-zero pledges since COP26. Policy implementation has progressed, but it remains too slow. There have been notable developments in the US, which passed the most ambitious and potentially impactful climate policy package in its history – The Inflation Reduction Act. China has adopted more ambitious clean energy policies in its fourteenth Five Year Plan and the EU plans to overachieve on its target with new policies. But higher historical emissions and some methodology updates based on the latest science mean that CAT's temperature estimate for policies and actions remains unchanged at 2.7°C.

Temperature alignment as at 31 March 2023 of Legal & General's Mastertrust default funds, shown alongside some relevant comparators – the MSCI ACWI Index and LGIM's Future World Sustainable Global Equity Focus Fund



Source: Climate Action Tracker (2022). The CAT Thermometer. November 2022. Available at: https://climateactiontracker.org/global/cat-thermometer/ Copyright © 2022 by Climate Analytics and NewClimate Institute. All rights reserved.

It's nigh on impossible today to invest in a portfolio of well-diversified holdings and have a modelled temperature alignment of 1.5ºC, or even at the very least sub 2ºC. Unfortunately, the window of opportunity to achieve a 1.5°C climate outcome is starting to close at a worrying speed, with 2022 being yet another year of largely inadequate action in terms of world-wide responses.

After the declines in emissions that occurred during the COVID-19 pandemic (which from peak to trough equalled roughly the same annual rate of change needed globally for the next 30 years to achieve 1.5ºC), the global economic rebound that followed has led to all those declines being fully unwound, and then some[5].

Global emissions are on track to reach all-time highs[6], and little tangible evidence has been observed that this trajectory is likely to change any time soon. Climate science has been clear for some time that the risks as warming increases beyond 1.5°C accelerate dramatically, and the evidence seen today suggests that investors need to start to prepare for these risks to materialise. The window of opportunity to set the world on a pathway to 1.5°C is nearly closed, with fewer and fewer plausible routes to achieving it.

[5] IEA 2021.

[6] IEA 2022.

Lifestyles

There are 10 lifestyle strategies that fall in scope for this year's TCFD report. In an effort to improve reporting on the levels of climate risk affecting different membership populations, this year in the table below each lifestyle has three separate entries, detailing the climate risk at distinct stages – 45 years before retirement, five years before retirement, and at the point of retirement. Please note that for the calculation of the total carbon emissions, the same AUM figure has been applied. As a result, the total carbon emissions cannot be calculated by totalling the three separate entries.

The table below is focused on the Scope 1 and 2 emissions categories. Scope 3 information is shown in a separate table in the Appendix.

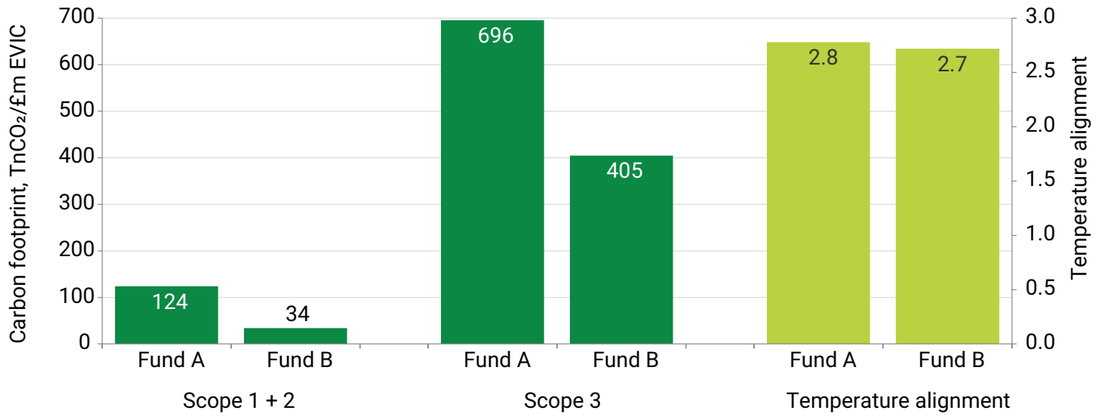
Lifestyle	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (tonnes CO_2e per £1m EVIC)	Coverage %	Temperature alignment, ºC	Coverage %	Climate engagement %
Legal & General Drawdown	677						12
+45		78,130	115.5	88.4	2.73	85.3	
+5		78,130	115.5	88.4	2.73	85.3	
0		80,749	119.3	69.8	2.79	68.0	
Employer A	256						14
+45		24,169	94.4	94.7	2.80	94.3	
+5		31,435	122.7	76.2	2.78	73.1	
0		30,659	119.7	63.1	2.78	60.5	
Employer B	347						13
+45		30,011	86.4	97.2	2.70	96.7	
+5		42,952	123.7	81.3	2.78	78.0	
0		26,222	75.5	74.7	1.94	74.7	
Employer C	410						14
+45		37,410	91.2	98.6	2.89	98.3	
+5		34,388	83.9	83.4	2.66	80.9	
0		37,339	91.0	78.0	2.64	76.2	
Employer D* (i)	3,038						11
+45		188,243	62.0	77.7	2.72	76.7	
+5		178,333	58.7	79.8	2.70	78.8	
0		188,253	62.0	64.0	2.28	63.4	

Lifestyle	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (tonnes CO_2e per £1m EVIC)	Coverage %	Temperature alignment, ºC	Coverage %	Climate engagement %
Employer D* (ii)	122						10
+45		7,551	62.0	77.7	2.72	76.7	
+5		7,154	58.7	79.8	2.70	78.8	
0		7,320	60.1	60.5	2.69	59.7	
Employer E	245						12
+45		28,311	115.5	88.4	2.73	85.3	
+5		28,499	116.2	83.7	2.75	81.0	
0		29,257	119.3	45.4	2.79	44.2	
Employer F	205						13
+45		6,947	33.9	99.0	2.72	98.8	
+5		15,901	77.5	88.8	2.68	85.6	
0		24,485	119.4	52.4	2.79	51.0	
Employer G	105						13
+45		10,046	95.5	99.1	2.87	98.8	
+5		11,248	107.0	94.9	2.69	93.0	
0		11,170	106.2	97.6	2.61	95.9	
Employer H	105						23
+45		10,229	97.4	96.3	2.63	95.8	
+5		12,121	115.5	88.4	2.73	85.3	
0		9,378	89.3	64.7	2.70	62.6	

* Funds hold a portion of assets managed by fund managers external to LGIM

Please note that the table of metrics above will not be directly comparable to the table in last year's report. In a change from last year, for this year's report, data is available expressed in pound sterling for all eligible assets. Metrics are also provided across both corporates and sovereigns.

So what are the key reasons for the differences we see between the lifestyle stages with the highest and lowest carbon footprint?



Why is there such a difference in carbon footprint between the two funds?

Fund B has a much lower carbon footprint, primarily because 100% of the fund is invested in ESG-tilted indices. Alongside this, 100% of it has the minimum standards of the Future World Protection List and Climate Impact Pledge applied to it.

Fund A in comparison has 0% invested in ESG-tilted indices, with 29% of its fund applying the same minimum standards.

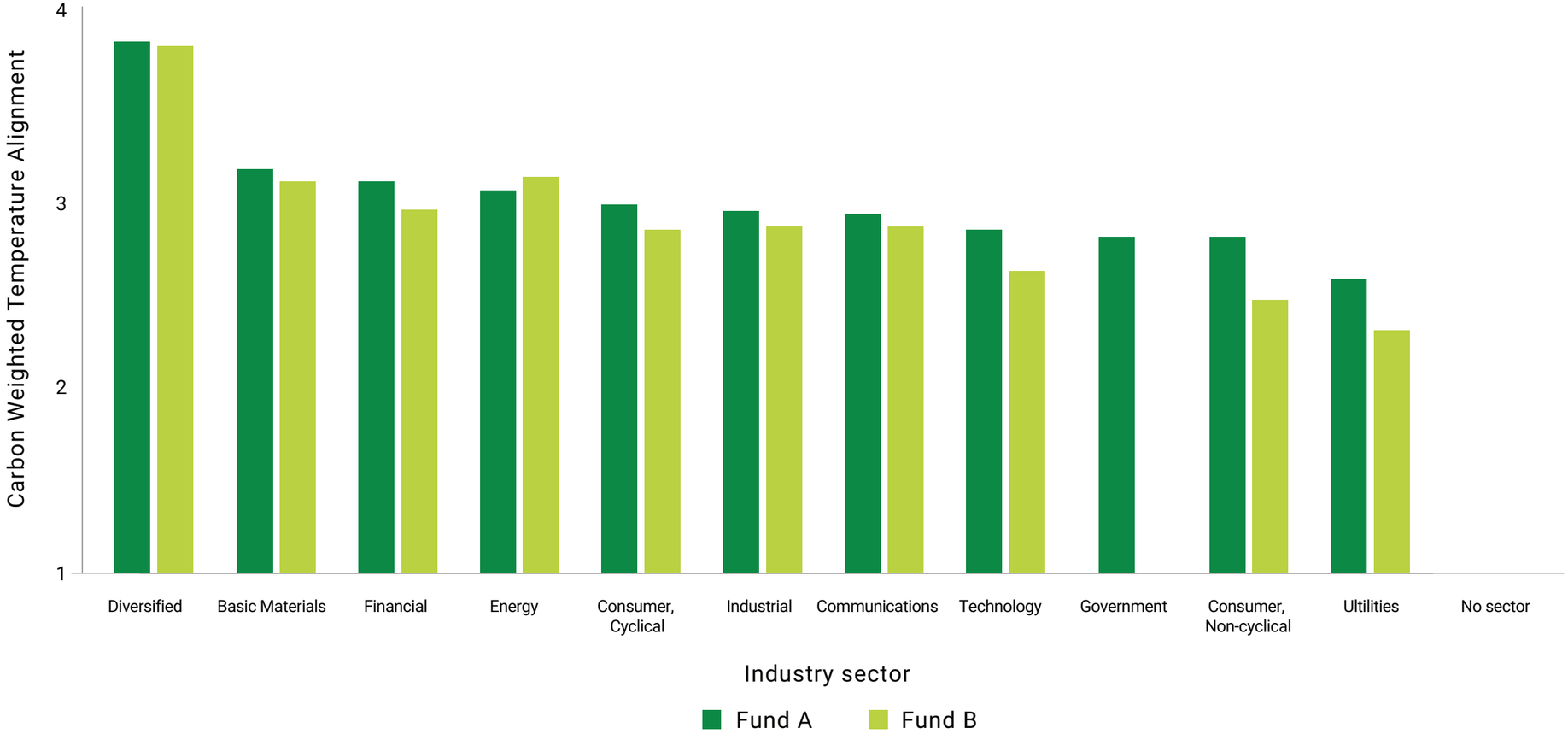
Please note that this comparison is purely focused on Fund A versus B from an ESG perspective, and does not infer that either is better than the other viewed from any other perspective. The two funds have quite different overall investment objectives, which in turn may influence their relative ESG credentials.

Why are the temperature alignments of the two funds very similar?

Alignment and carbon intensity do not tend to be well correlated. Carbon intensity is a snapshot of current Scope 1 and 2 emissions per unit of revenue.

Temperature alignment considers additional datapoints:

- Historical reductions in emissions intensity
- Current intensity relative to comparable peer group
- Forward-looking targets, adjusted for credibility
- Scope 3 emissions for sectors such as oil and gas, where these are a material part of the carbon footprint



There is very little difference in sector-level alignments between the two funds and therefore the portfolio-level alignments are about the same. There is an exception of the government sector, where Fund A has exposure and Fund B doesn't, however the government sector average sits at 2.77°C for Fund A, which is around the portfolio average, so it doesn't push the portfolio alignment up or down.

Targets

In March 2021, the Legal & General Mastertrust set out interim, fund-specific targets on the journey to net zero by 2050. These were initially set for 2025 and 2030. A review of these targets is expected ahead of the first target date being reached in 2025.

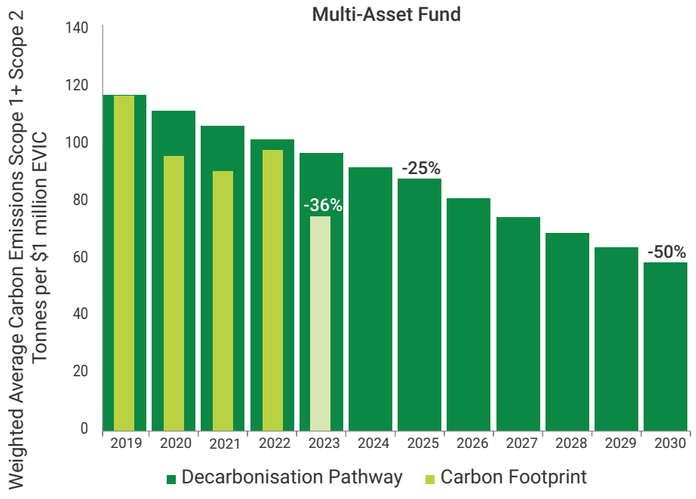
The current targets are solely carbon footprint focused. That isn't to say that other metrics and data are not used when assessing on an ongoing basis the current and future ESG credentials of LGIM's funds. As part of its review, supplementary targets will be considered. The world, policymakers and investors need to embrace every legitimate option in the decarbonisation toolkit. Achieving the Paris goals is going to require using virtually every legitimate tool in the energy transition toolkit.

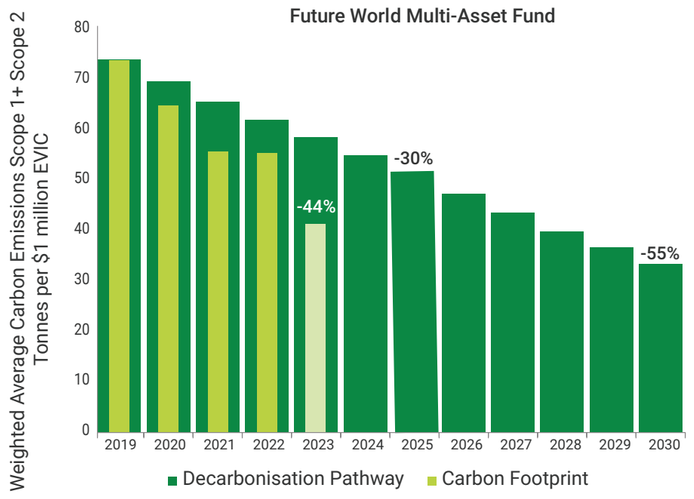
Progress against current targets

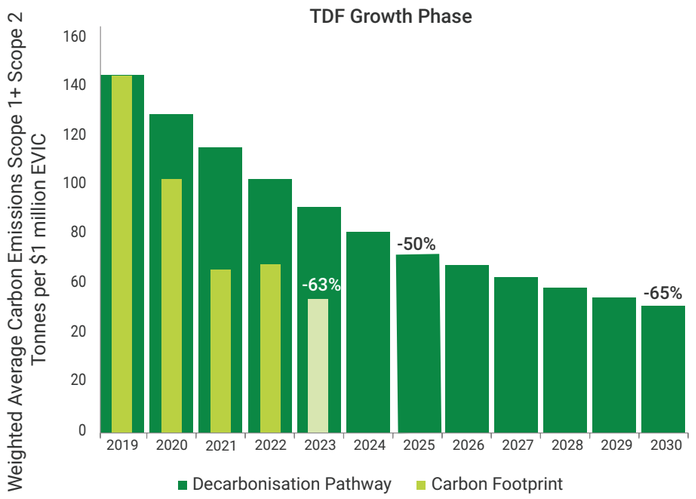
The charts below show the progress for all Legal & General Mastertrust default funds against their targets to 31 March 2023.

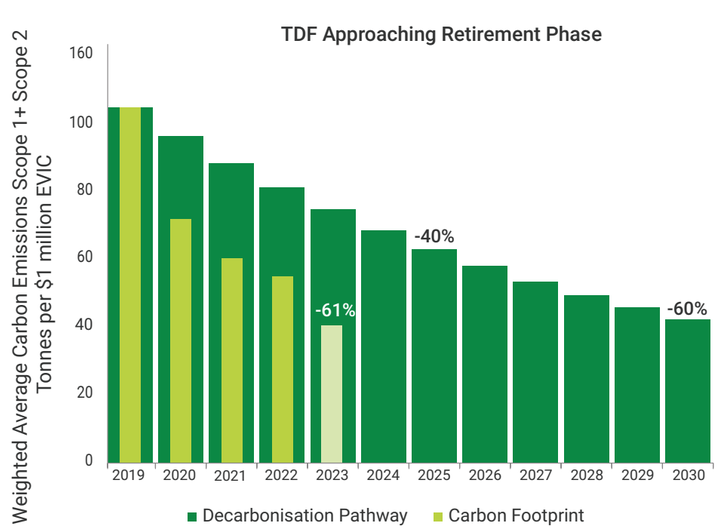
Please note that all targets are relative to end-2019 data and focused on portfolios' listed equity and publicly traded corporate-debt exposure, expressed in USD terms.

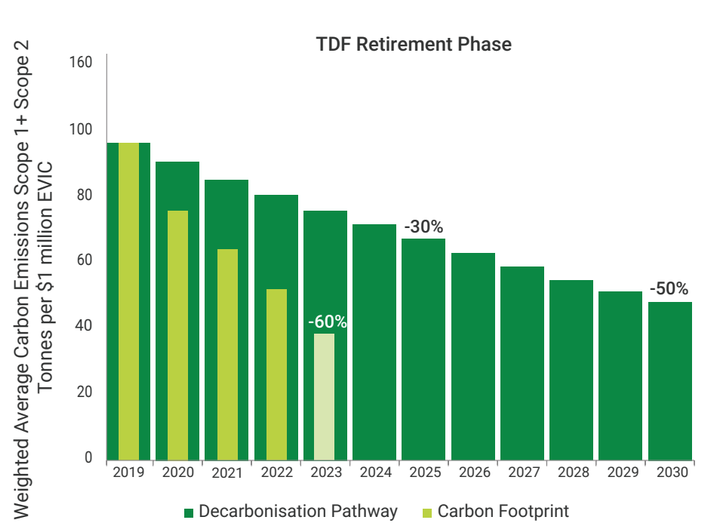
Progress against targets for Legal & General Mastertrust default funds, as at 31 March 2023:











All of our default funds have surpassed their 2025 targets, with the Target Date Funds also at, or ahead of, their 2030 targets. However, we are not celebrating just yet. There is an understanding that although progress has been made, much of the progress seen in the charts above can be explained by how the metric has been calculated.

As detailed earlier in this report, carbon footprint is calculated as total carbon emissions/EVIC, which is the recommended carbon intensity metric from the Department of Work and Pensions' 2022 guidance. As a result of known 'denominator' effects, the increase in EVIC values experienced over the last reference year, can lead to a headline reduction in carbon footprint that presents an inflated view of the 'real-world' changes that have taken place. There is no perfect answer here, and this is the key reason why, when establishing and tracking the ESG credentials of an individual fund, a plethora of ESG metrics and data is taken into account, in order to build as comprehensive a picture as possible.

Mindful of this, and the developing area of credible ESG data availability, we and LGIM are carefully considering how the targets set to fulfil TCFD regulatory requirements may be developed further.

The increasing importance of a focus on nature

The global impact of nature loss (including from deforestation) on the markets and companies in which we are invested is financially material. Biodiversity loss presents a major global systemic risk, as more than half of the world's gross domestic product (GDP) – around US$44 trillion – is either moderately or highly dependent on nature[7].

The interdependencies between nature and climate are of critical importance. A changing climate threatens natural ecosystems, and nature loss amplifies climate change by reducing the ability of ecosystems to store carbon. An estimated 23% of total anthropogenic[8] GHG emissions come from agriculture, forestry and other land use[9], around half of which is due to deforestation and land conversion driven by commodities that provide us with food, fibre, feed and fuel.

LGIM's actions to date on biodiversity and deforestation

Biodiversity

A credible pathway to net zero must include actions on deforestation, as well as biodiversity loss, and nature more broadly. LGIM published a biodiversity policy[10] in November 2021, which sets out commitments and targets under the Finance for Biodiversity Pledge.

A BCG report from 2021[11] found that just four sectors – food, energy, infrastructure and fashion – are responsible for more than 90% of man-made pressure on biodiversity.

LGIM believes that investors share a collective responsibility to accelerate action to reduce biodiversity loss. Investors are facing a common challenge presented by the lack of comprehensive data, robust frameworks, standardised metrics and definitions. While some good data sets do exist, they are not at the scale required.

Nevertheless, improvements in ESG data over the past year have enabled LGIM to create and expand a 'Nature' component incorporating metrics on biodiversity, water and deforestation within its ESG score. This is used to assess more than 17,000 companies that form the investible universe of the ESG-tilted Future World indices. These indices are used by the Legal & General Mastertrust defaults of the Future World Multi-Asset Fund and the Target Date Funds.

At the United Nations Biodiversity Conference, COP15, an ambitious global biodiversity framework (GBF) was agreed, which includes robust 2030 targets to put us on course towards a 2050 goal of 'Living in Harmony with Nature'. Businesses will be required to regularly i) monitor, assess and transparently disclose biodiversity impacts and dependencies; ii) align public and private financial flows with nature; iii) reform harmful government subsidies; and iv) increase financing and investment for nature.

[7] World Economic Forum, 2020.

[8] Relating to, or resulting from the influence of human beings on nature

[9] https://www.ipcc.ch/site/assets/uploads/sites/4/2020/02/SPM_Updated-Jan20.pdf

[10] https://www.lgim.com/landg-assets/lgim/_document-library/capabilities/lgim-biodiversity-policy.pdf

[11] https://www.bcg.com/publications/2021/biodiversity-loss-business-implications-responses

In September 2023, The Taskforce on Nature-related Financial Disclosures (TNFD) released its final recommendations for nature-related risk management and disclosure. There is an intended high level of alignment with the structure, language and approach taken by the TCFD - four pillars and 11 recommended disclosures, with the notion of 'scopes' adapted to the nature context as 'direct' operations, 'upstream', 'downstream' and 'financed'.

Deforestation

In 2021, LGIM signed the COP 26 Commitment on Eliminating Agricultural Commodity Driven Deforestation from Investment Portfolios. The Commitment encourages a focus on active ownership and ongoing stewardship, to collectively work towards portfolios that are free from forest-risk agricultural commodity-driven deforestation activities. As a signatory, LGIM commits to use best efforts to tackle commodity driven deforestation impacts in investment portfolios by 2025, and work towards the following milestones:

By 2022:

- Assess exposure to deforestation risk, with a focus on 'forest-risk' agricultural commodities -- palm oil, soy, beef and leather, pulp and paper
- Establish investment policies addressing exposure to agricultural commodity-driven deforestation
- Deepen engagement of the highest risk holdings on deforestation in its supply chains, operations and/or financing

By 2023:

- Disclose deforestation risk and mitigation activities in portfolios, including due diligence and engagement.

By 2025:

- Publicly report credible progress, in alignment with peers, on the milestones to eliminate forest-risk agricultural commodity-driven deforestation in the underlying holdings in LGIM's investment portfolios through successful company engagement.

  In August 2023, LGIM published an updated deforestation policy setting out its approach to tackling deforestation, which includes a commitment to use best efforts to tackle commodity-driven deforestation impacts in investment portfolios by 2025. This commitment is company-wide and applies to new and existing LGIM corporate holdings, with a focus on 'deforestation-critical' sectors[12] and 'high-risk' countries[13]. The full application of the policy is subject to data availability and coverage.

[12] 'Deforestation-critical' sectors or 'high-risk' sectors are defined using Ceres' Investor Guide to Deforestation and Climate Change. LGIM also follows Deforestation Free Finance guidance on which GICS sub-industries to cover.

[13] 'High-risk' countries defined using the Deforestation Free Finance guidance.

* Companies mentioned are for illustrative purposes only. Reference to a particular security is on an historical basis and does not mean that the security is currently held or will be held within an LGIM portfolio. The above information does not constitute a recommendation to buy or sell any security.

LGIM has steadily evolved its approach to assessing and engaging on deforestation risk, most recently with a new risk-assessment tool, with voting sanction implications, on deforestation policies and programmes. Identifying companies that are failing to meet minimum standards on the management of commodity-driven deforestation helps direct and prioritise engagement activity.

Metrics related to deforestation are increasing in availability, but more action is required to improve the standardisation and boost the scope and coverage of data to support assessment across investors' portfolios. In collaboration with other Finance Sector Deforestation Action (FSDA) signatories, LGIM has written to data providers to engage and work with them on further developing their offering, particularly in relation to an increased set of key commodities. Additionally, LGIM is working with its primary deforestation data provider, Sustainalytics, on expanding its coverage.

Deforestation metrics and assessments are also incorporated into LGIM's Climate Impact Pledge; the divestment list as at June 2023 contained three food sector companies. For two of these, Hormel* and Loblaw*, the absence of a comprehensive zero-deforestation policy is one factor in their divested status. Additionally, one factor behind the reinstatement of China Mengniu Dairy* under the Climate Impact Pledge was the company's publication of a deforestation policy.

Developing data and metrics

Leveraging the good work that has been done by LGIM's Investment Stewardship team, work is underway to build out a broader array of indicators that can be used to monitor and analyse the nature credentials of the Mastertrust's default funds or key components thereof, with improvements in these credentials to be assessed over time. These will be supplementary to the main TCFD metrics and will act as indicators of interest, with a broad commitment to, where appropriate, tilt capital allocations to provide an improvement in these metrics over time.

Current metrics available are:

1. Activities negatively affecting biodiversity sensitive areas, SFDR PAI 7

   Defined as the 'share of investments in investee companies with sites/operations located in or near to biodiversity-sensitive areas where activities of those investee companies negatively affect those areas.'

   Sustainalytics is the external data provider for this metric, identifying incidents in the last three years in sensitive areas as recorded by the Natura 2000 network of protected areas, UNESCO World Heritage Sites and other protected areas referred to by the Delegated Regulation. Sustainalytics acknowledges that it is currently difficult to obtain accurate data.

2. Tonnes of emissions to water generated by investee companies per million EUR invested, expressed as a weighted average, SFDR PAI 8

   Sustainalytics is the external data provider for this metric. It provides direct emissions of nitrates, phosphate and pesticides, and direct emissions of priority substances as defined in Article 2(30) of Directive 2000/60/EC of the European Parliament and of the Council (e.g., heavy metals, loads of organic pollutant parameters such as biochemical oxygen demand (BOD) and chemical oxygen demand (COD), nitrogen and phosphorus compounds). Only reported data is included with no estimates.

3. Hazardous waste and radioactive waste ratio, SFDR PAI 9

   Defined as 'tonnes of hazardous waste and radioactive waste generated by investee companies per million EUR invested, expressed as a weighted average', where 'hazardous waste' is defined in Article 3(2) of Directive 2008/98/EC of the European Parliament and of the Council, and 'radioactive waste' is defined in Article 3(7) of Council Directive 2011/70/Euratom.

   Sustainalytics is again the external data provider for this metric, and provides the waste production in tonnes covering both aspects. Only reported data is included with no estimates.

Funds, as at 31 March 2023 (12-month rolling average)	Activities negatively affecting biodiversity sensitive areas %	Coverage %	Emissions to water generated by investee companies (tons/£1m invested)	Coverage %	Hazardous waste production (tons/£1m invested	Coverage %
Multi-Asset Fund	8.4	69.6	0.7	6.4	47.4	29.4
Future World Multi-Asset Fund	5.5	71.9	0.6	6.8	36.6	29.0
Target Date Funds (growth)	5.9	82.9	0.7	8.5	34.1	34.9
Target Date Funds (approaching retirement)	5.8	64.4	0.6	5.7	38.6	25.7
Target Date Funds (retirement)	5.5	57.7	0.5	4.4	46.0	21.6

Third-party data and LGIM calculation methodologies form the basis of calculations used within the table above. Third-party data is utilised under licence and with the data providers' legal permission. Whilst all reasonable endeavours are taken to ensure the data provided is accurate, it is important to note that LGIM and the third-party data providers assume no responsibility for errors or omissions and cannot be held liable for damage arising from the use of their data within the calculations and any reliance you place on the calculations. It should also be noted that coverage of the data is varied and where it is low, it would be prudent to exercise caution in using the data to ascertain performance of portfolios against adverse impacts. PAI metrics are for information purposes only. The provision of this data should not be considered as an indication that the investment manager considers all relevant PAIs of its investment decisions on sustainability factors. LGIM reserves the right to change the metrics and data sources used in future reports and may not be able to provide an analysis on the attribution where changes are made.

Despite the importance of biodiversity to most sustainability objectives, efforts to safeguard it are at an earlier stage of development than related efforts to tackle climate change. There has been significant recent momentum, however. A major step forward was made late last year, when nearly 190 countries signed the landmark Kunming-Montreal Global Biodiversity Framework, setting out a range of targets for 2030, including cutting global food waste by half and ensuring effective conservation of at least 30% of the world's lands, inland waters, coastal areas and oceans. This framework was bolstered in March of this year with the signing of an international treaty to protect marine biodiversity in international waters[15].

Critically, the Kunming-Montreal Framework also seeks to increase funding for biodiversity, which currently covers only a fraction of the annual amount needed for conservation and restoration. It identifies a biodiversity financing gap of $700 billion per year, in line with recent estimates from the Paulson Institute, an independent think tank[16], and BIOFIN, a biodiversity finance initiative[17]. To reduce this shortfall, the framework aims to mobilise at least $200 billion per year in biodiversity-related funding from public and private sources and seeks to boost the flow of investment to developing countries to $30 billion per year by 2030. To achieve these goals, it calls for leveraging private finance, promoting blended finance and encouraging the private sector to invest through impact funds.

Another useful context for considering biodiversity investment is provided by the UN Sustainable Development Goals (SDGs), which have emerged as a common language for understanding how companies and portfolios are positioned for environmental and social impacts. Of the 17 SDGs, the two most directly associated with biodiversity are 14 (life below water) and 15 (life on land). Little investment has been aligned with these two goals, however, and SDG 14 is the least funded of all, according to another World Economic Forum report[18]. This shortfall could in turn threaten the UN's entire sustainable development agenda because of the interdependence of these goals with many others. After all, resilient ecosystems are important to most economic sectors and activities. The UN has said that all 17 of its SDGs ultimately depend on healthy ecosystems and biodiversity.[19]

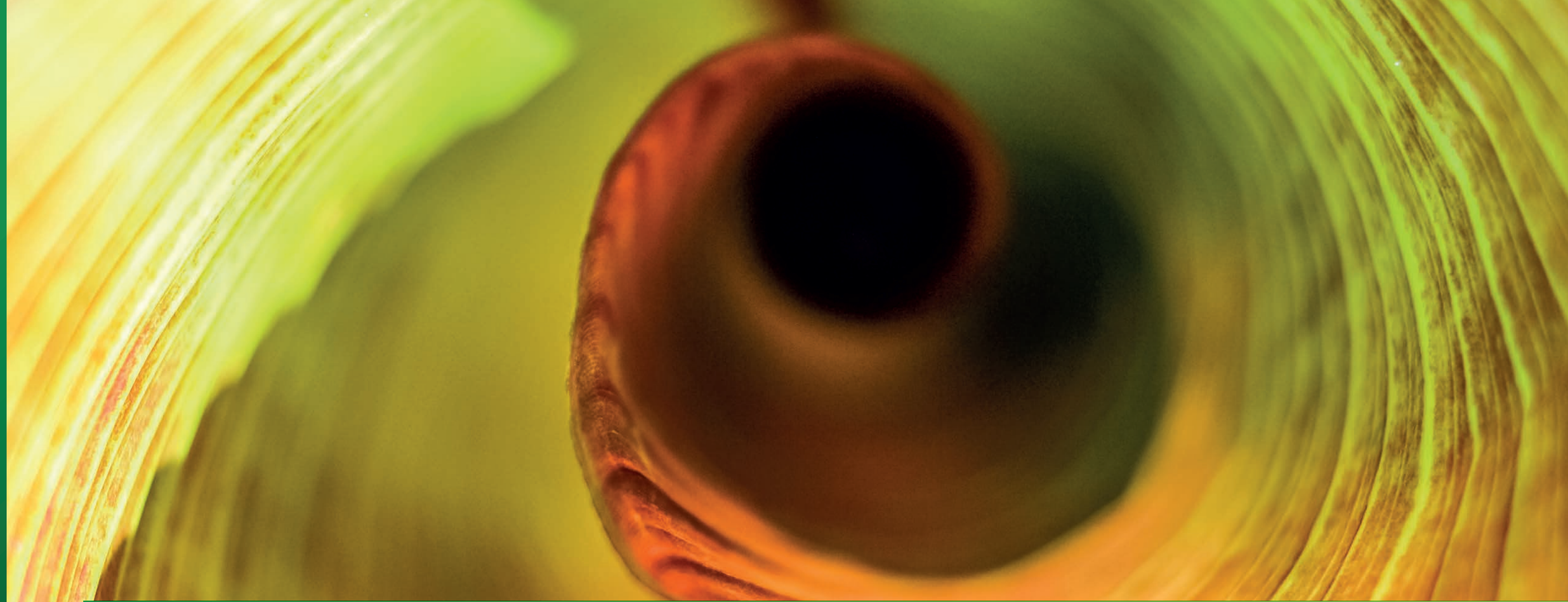
[15] 'UN delegates reach historic agreement on protecting marine biodiversity in international waters,' UN press release. As of March 5, 2023.

[16] 'Financing Nature: Closing the Global Diversity Financing Gap,' Paulson Institute in partnership with The Nature Conservancy and the Cornell Atkinson Center for Sustainability. As of July 12, 2022. The report estimates the average annual biodiversity gap to 2030 at $711 billion.

[17] 'Investing in the Planet's Safety Net,' BIOFIN. As of December 7, 2022. The report estimates the biodiversity financing shortfall at $681 billion per year. BIOFIN was initiated by the United Nations Development Programme and the European Commission at the 11th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP 11) to channel financial resources towards global and national biodiversity goals.

[18] 'SDG14 Financing Landscape Scan: Tracking Funds to Realize Sustainable Outcomes for the Ocean,' World Economic Forum. As of June 8, 2022.

[19] 'UNEP and Biodiversity, United Nations Environment Programme website. As of September 2020. The SDGs are a 15-year global action plan for protecting the environment, ending poverty and reducing inequality.



Case study: recent LGIM investment in the protection of biodiversity

In 2022, LGIM was involved in the financing of the Belize conservation blue bond to support marine conservation in Belize. The Belize government worked in partnership with The Nature Conservancy to restructure its external public debt, significantly reducing its existing debt-servicing costs, while also securing funding for marine conservation activities.

A proportion of the proceeds and interest payments of the loan will go towards protecting essential coastlines of Belize, which accommodate a rich biodiverse barrier reef – the second largest in the world and a UNESCO-recognised World Heritage Site. The reef is also a key driver of tourism to Belize, which is essential for the economy. Belize is targeting eight key milestones in relation to marine conservation, including expanding biodiversity protection zones. If it does not achieve these milestones, it will need to make increased payments to the conservation funding.

Over the last year, Belize has successfully achieved a number of its initial milestones. This includes those related to the extent of expansion of the biodiversity zones and the designation of public lands within the Belize Barrier Reef Reserve System as mangrove reserves.

For the avoidance of doubt, this case study from Belize is from the wider LGIM universe, and not specific to the investments currently held by the Legal & General Mastertrust. LGIM will look for further opportunities like this that have positive nature impacts and that can be included within the default strategies of the Mastertrust where appropriate to do so.

Section 3

Risk Management

Climate-related risks are considered to be very important. As well as including climate-related risks within our risk management documentation, consideration of these risks is incorporated into wider activities undertaken on behalf of the Mastertrust, particularly those relevant to investment decision making.

ESG, and particularly climate-related risks, can be identified by various parties including us, our advisers and managers as outlined in section 1 of this report as part of the ongoing management of the Mastertrust.

ESG and climate-related risks are identified as part of the following processes:

- **Investment strategy reviews** – we consider climate-related risks as part of the regular investment strategy reviews that are carried out for the Mastertrust. These reviews cover the extent to which ESG and climate considerations affect the selection, retention and realisation of investments. Our advisers are expected to integrate ESG and climate considerations into their strategy advice and to highlight any key risks that are included within any potential investment strategy. The risks to the strategies available in the Mastertrust may also be identified by the climate scenario analysis undertaken and described later in this report.
- **Considering asset classes** – when assessing new asset classes, potential climate risks are assessed and discussed as part of the training provided to us. Key climate risks are factored in when comparing alternative options.
- **Selection of investment managers** – when appointing a new investment manager, our adviser provides information and its views on each manager's ESG policy and capabilities. Each manager is also asked to provide information regarding their own ESG risk-management processes as part of the selection process. This information allows us to identify potential risks when comparing potential providers.
- **Individual mandates and investments** – LGIM also undertakes risk analysis at the individual asset level and has adopted enhanced management of ESG issues and climate change, including new potential investment products. This is supported by the measurement of the chosen climate-related metrics as outlined under section 2 of this report.

Prioritisation of the identified climate-related risks is also supported by discussion as part of the above activities as well as the climate scenario analysis and measurement of the chosen climate metrics.

We acknowledge that climate change is, for asset owners, a risk that cannot be fully diversified. Almost all asset classes, sectors and regions are likely to be affected by the physical, policy or market-related consequences of climate change over the long term. Climate risk is not reserved to the oil, gas and power generation sectors but applies also to downstream sectors. Investors focusing exclusively on primary energy suppliers could fail to identify material climate risks in other sectors. Speaking generally, a Paris-aligned transition to a low carbon economy would lead to better outcomes for long-term investors, and that is preferable to alternative climate scenarios.

We have considered climate in the context of our fiduciary responsibilities. Our investment principles incorporate ESG and other related matters, based on our longer-term view. Uncertainty exists in climate science, and no single tool can provide an accurate and complete observation on a scheme's climate risk. For responsible investors looking to proactively manage climate risk, a combination of metrics and methodologies represents the best possible information set currently available.

Examples of transitional risks

Risk	Description
Policy	• Increased pricing of greenhouse gas emissions • Enhanced emissions-reported obligations • Mandates on, and regulation of, existing products and services • Exposure to litigation
Technology	• Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Costs of transition to lower emissions technology
Market	• Changing consumer behaviour • Uncertainty in market signals • Increased cost of raw materials
Reputation	• Shifts in consumer preferences • Stigmatisation of sector • Increased stakeholder concern or negative stakeholder feedback

Source: Taskforce on Climate-related Financial Disclosures (2017)

Examples of physical risks

Risk	Description
Acute	• Increased severity of extreme weather events, including more severe storms, wildfires and droughts
Chronic	• Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels

Source: Climate Watch, the World Resources Institute, and The UNFCCC Secretariat (The United Nations Climate Change)

Risk Management Framework

In collaboration with the Designated Risk Officer, we maintain a Risk Management Framework that enables us to gain assurance that relevant risks are being appropriately identified and managed. A Risk Register captures the key strategic risks for the Mastertrust, including climate risks. The Risk Register is refreshed quarterly, ahead of the IC where it is reviewed and ratified. As part of this process, Committee members will consider the risk landscape and whether any new and/or emerging risks require further analysis.

The IC has responsibility to determine CRRO, with the support of LGIM, the investment adviser and fund managers. The IC will assess CRRO in each popular strategy over the short (e.g. five years), medium (e.g. 10 years) and long term (e.g. 30 years). The IC will undertake the necessary work to establish and determine how the risks will be monitored and assessed on an ongoing basis, and it will make sure it is provided with adequate reporting and analysis. The IC will recommend any changes and updates to our Trustee Board for approval.

We recognise that the monitoring and assessment of exposure to climate-related risks is developing and that the metrics and tools available to us may evolve. We will monitor changes in market practice to ensure that we are aware of changing best practice.

We will monitor exposure to climate-related risks within our portfolios on an annual basis, considering exposure to carbon reserves, overall carbon intensity and alignment with future climate scenarios.

Risk management tools and approach

We have used Destination@Risk, LGIM's proprietary model, to analyse scenarios for how the energy system may evolve over the next 30 years and the investment implications. The model takes a bottom-up approach (i.e. individual security level) and projects companies' carbon emissions intensity into the future and compares them with industry targets for business as usual and Paris-aligned scenarios.

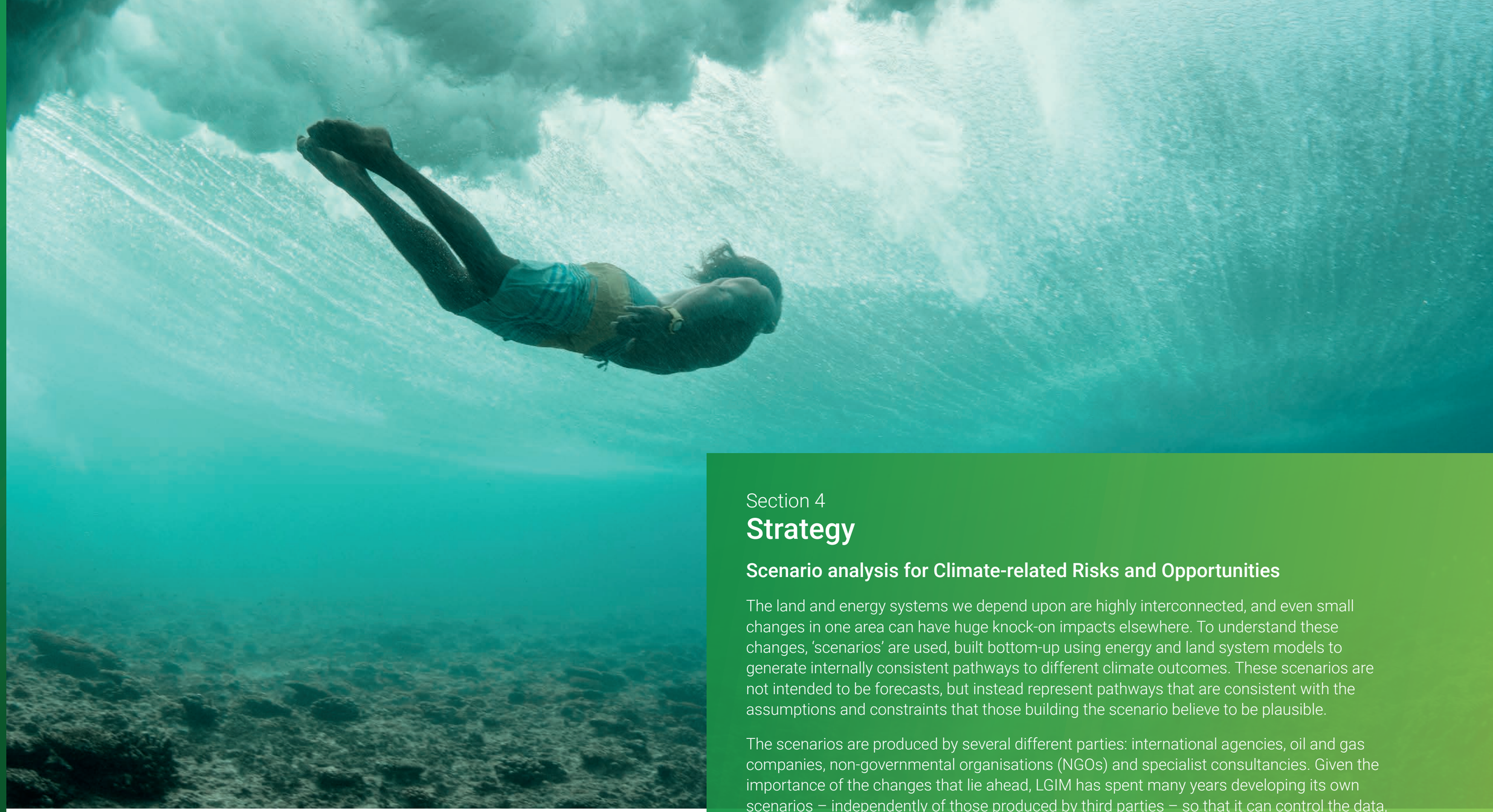
This enables LGIM to identify companies with business models and assets that can adapt to a world of rising temperatures and avoid those companies that have unsustainable business models and potentially stranded assets. Stranded assets are those that lose value or turn into liabilities before the end of their expected economic life.

LGIM's Destination@Risk model is constructed to follow the recommendations of the TCFD and provides scenario analysis to explore a range of possible future climate pathways and their potential impacts, rather than predictions or probabilities.

The toolkit consists of four models:

Scenario	Primary inputs	Primary outputs
1. Destination	Carbon budgets, technology costs, service demand projections	Energy mix, oil prices, carbon prices, economic output, emissions pathways
2. Climate risk	Carbon prices, energy demand, emissions pathways	Risk to GDP, inflation and asset values (listed corporate and sovereign bonds and equities)
3. LGIM temperature alignment	Energy mix, sectoral emissions pathways, economic output	Company and country temperature alignment scores
4. Gap risk to net zero	Temperature alignment scores, sectoral emissions pathways	Distance to net zero outcome for countries and companies

Details to the Trustees' approach to voting are outlined within the Mastertrust's Statement of Investment Principles.



Section 4

Strategy

Scenario analysis for Climate-related Risks and Opportunities

The land and energy systems we depend upon are highly interconnected, and even small changes in one area can have huge knock-on impacts elsewhere. To understand these changes, 'scenarios' are used, built bottom-up using energy and land system models to generate internally consistent pathways to different climate outcomes. These scenarios are not intended to be forecasts, but instead represent pathways that are consistent with the assumptions and constraints that those building the scenario believe to be plausible.

The scenarios are produced by several different parties: international agencies, oil and gas companies, non-governmental organisations (NGOs) and specialist consultancies. Given the importance of the changes that lie ahead, LGIM has spent many years developing its own scenarios – independently of those produced by third parties – so that it can control the data, assumptions and constraints. Please note that building the scenarios requires a very large number of assumptions to be made – any of these could prove to be incorrect and this has the potential to materially invalidate all, or key parts, of the scenarios.

LGIM has conducted extensive benchmarking of its scenarios against external scenario-modelling efforts, including those released by the Central Banks, Supervisors Network for Greening the Financial System (NGFS) and the International Energy Agency (IEA). While different models may have different emphases, the key underpinnings of their transition scenarios are the same. Well-established and novel technologies work in tandem to deliver fundamental change to the production and use of energy in the global economy.

For most variables, LGIM scenarios are well within the range of scenarios, including solar and wind generation and carbon capture and storage. However, they diverge slightly on a few key points, including fossil fuel demand persisting for longer, having a deliberately more disruptive delayed (below 2°C) pathway and higher projections for hydrogen demand.

The assumptions and constraints underpinning the scenarios are not static; they need to be continually updated and improved to reflect the changes that are occurring in the world around us and the dramatic pace of change in technologies and expected costs.

The pace of cost and efficiency improvements has been consistently underestimated in low carbon energy technologies. In almost every area, a review of the current literature has led to a lowering in prior assumptions on costs and, in many cases, an increase in assumptions on efficiency. Even though the required pace of decarbonisation has increased due to delays to policy action, the reduction in assumed costs more than offsets this.

LGIM is increasingly of the view that the cost of transitioning is no longer an especially relevant factor. Aside from a few exceptions, a low carbon energy system is now so cheap, that further improvements in costs and efficiencies are no longer likely to have as large an impact on the pace of change as they have had historically. Instead, the modelling suggests that it is the speed at which capital can be deployed into low carbon energy systems that is now the most important driver and the most pressing challenge.

To follow the net zero 1.5°C pathway, LGIM estimates average annual additions to 2050 would have to be three times current levels for solar and double current levels for wind. This is far from being just about making capital available - in the context of the wider policy environment, removing bottlenecks like permitting and infrastructure are just as - if not more - important than capital availability to unlock this potential acceleration.

For the first time, the required changes to our land system, alongside energy, have been modelled[20]. The modelling has confirmed that around 20% of the 'effort' required to achieve the Paris goals needs to come from our land use system – a radical process of changing the way we use our land – to counterbalance the competing demands of biomass, food and afforestation. The implications for land may be some of the most dramatic, and most underappreciated, of all the implications arising from the transition.

[20] LGIM relies on the open-source Model of Agricultural Production and its impact on the Environment (MAgPIE) for the land use component of the modelling (Dietrich et. al, 2021)

One of the most irksome communication challenges that climate and transition modellers face is explaining why – in present value terms – the economic costs of climate failure appear so small. In almost all studies, including LGIM's, the future costs of failing to achieve the Paris goals appear modest in today's terms. This does not obviously reconcile with the severity of the physical harms that are likely to manifest over time from climate failure.

A large part of this is accounted for by the distortions caused by discounting very large future costs at market discount rates. Even an economic catastrophe 70 or 80 years in the future, if discounted at a sufficiently high rate, can appear very modest in present value terms. In this case, discounting is clearly distorting the true severity of the future challenge.

Another part can be explained by the high degree of uncertainty and the challenges of effectively modelling the unprecedented and far-reaching nature of genuine climate breakdown. Very few models claim to be able to accurately capture the economic impact of climate breakdown and the associated human and societal costs.

However, there remains an underdiscussed third component to the problem. In both the case of successful transition and climate failure, a vastly disproportionate share of the costs would be borne not by the richest countries and people groups, but by the poorest. The poorer half of the world's population generates only around 10% of global economic output[21]. Therefore, in purely economic terms, catastrophic harm that affects them much more significantly than the richer half results in a disproportionately low direct economic cost – whether certain or uncertain – discounted or undiscounted.

A just transition

Many of today's most populous regions have contributed little to cumulative anthropogenic emissions. More than 15% of the current global population resides in India, but the country has contributed less than 5% to cumulative $C0_2$ emissions since 1800. On the opposite end of the spectrum, the US has contributed around a quarter of cumulative CO_2 emissions since 1800, but today accounts for less than 5% of the world's population[22].

Globally, the 10% of households with the highest emissions per capita contribute up to 45% of global consumption-based GHG emissions from households. More than two-fifths of the global population live in countries with emissions of less than three tCO_2 per capita, and a substantial share of these people lack access to modern energy services[23].

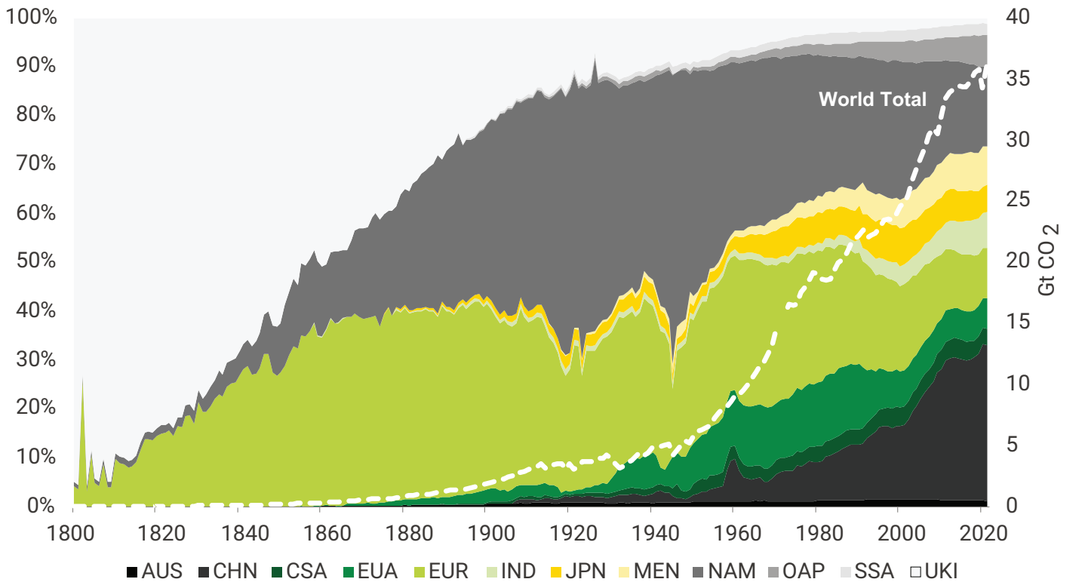
Yet across all scenarios these countries are hardest hit by macroeconomic climate risks. Generally, transition risks hit these regions harder because even though they have fewer emissions per capita, they are expected to grow significantly in terms of both economic output and population over the coming three decades. Their baseline emissions growth is hence much higher – and costly to abate – than in developed countries with moderate growth trajectories.

[21] LGIM analysis based on (World Bank, 2022)

[22] Ritchie, H., & Roser, M. (2020). CO_2 and Greenhouse Gas Emissions. Retrieved from Our World in Data: https://ourworldindataorg/emissions-by-sector

[23] Climate Change 2022: Mitigation of Climate Change. Retrieved from ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.

Share of annual CO_2 emissions by region, 1800-2020 (left); Total world emissions (right)[24]



Transition and physical risks

The modelling horizon is 2050, but the worst physical risks are likely to manifest in the latter half of the century and beyond. Yet even if we knew these long-term impacts today, standard discounting practices would make them appear very small. Transition risks, by contrast, are frontloaded in the first half of the century and hence appear comparatively large.

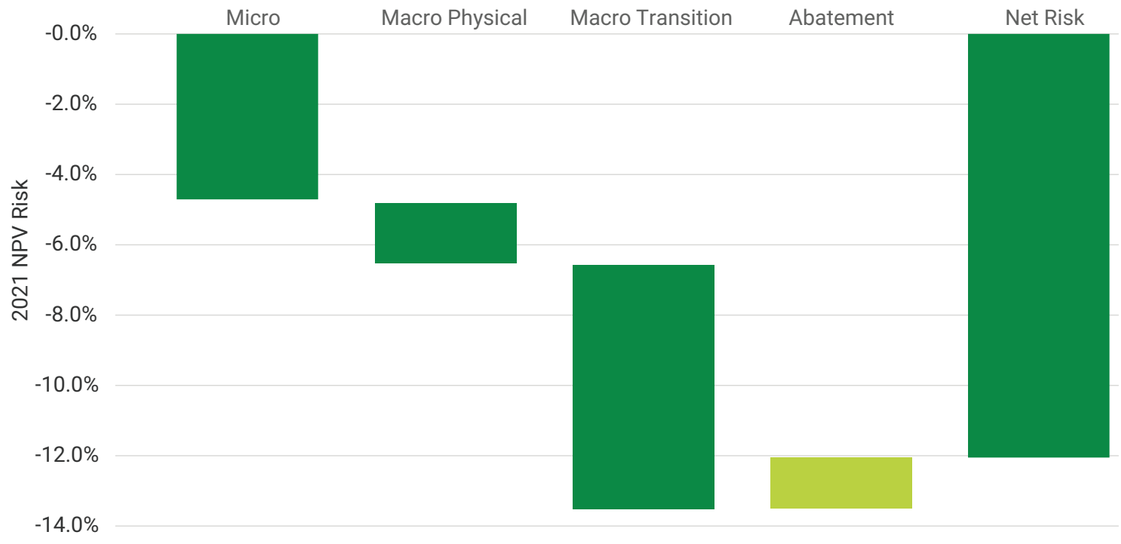
The physical risk captured in LGIM's analysis is the impact of higher temperatures on labour productivity, a type of chronic risk (physical risk from changes to the climate). This means it does not include acute physical risk from weather events such as tropical cyclones and heat waves, which are likely to become more frequent and more severe under unabated climate change.

Estimates of the impacts of acute physical risks on asset values and economic output to 2050 are usually small, partially because a methodology has not yet been found that goes beyond capturing the direct impacts of events – the business interruption from a factory being flooded, for example – to the wider supply chain impacts. The wealth of data required for such an exercise would be immense, but in its absence, acute physical risk estimates are not found to be meaningful to include.

Physical risk is measured in terms of impact on GDP. This means the impact of changes to the climate on variables that are not represented in GDP cannot be captured, but are nevertheless critical to economic and social prosperity, such as health, social mobility, the strength of political

[24] Ritchie & Roser, 2020.

Modelled split of climate risk for Target Date Funds, growth stage, as at 31 March 2023, under a 'Below 2°C disorderly' energy pathway:



The chart above highlights the split of the specific calculated climate risk for the Target Date Funds, growth stage (i.e. relevant for members up to the point they start to de-risk as they more closely approach their targeted retirement age/date), for the 'Below 2°C disorderly' energy pathway, between the following sub-categories:

Category	Further detail
Micro transition risk	Direct impact of carbon pricing on companies' bottom lines, including on demand for some products (such as oil and gas)
Macro physical	Indirect impact of labour productivity changes due to climate change
Macro transition	Indirect impact of carbon pricing – the reduction in demand for all products as consumers are forced to spend more on the same amount of goods
Abatement	Companies' ability to mitigate some of the microeconomic transition risk from carbon pricing through reducing emissions

The chart above shows a total net risk of around 12% as the 2021 NPV risk. The net present value represents the expected loss to the fund if the market fully priced into the market today the climate risk for the companies held within the fund out to 2050, assuming the companies held and the proportions to these remained the same.

Key specific analyst risks for the Target Date Funds, growth stage based on portfolio holdings as at 31 March 2023

Sector or industry	Type	Time frame	Share of earnings affected	Description
Oil & gas	Risk	Short (1-3 years)	High	Price volatility - crude and natural gas are volatile commodities and large price swings can have significant impacts on company earnings
Financial	Risk	Long (10+ years)	Low	Risk to insurers from more severe and likely extreme weather events as climate continues to warm, some of which may be difficult to predict for the purposes of premiums, making some markets uninsurable
Financial	Risk	Long	Low	Data and compatibility with risk frameworks - for banks most climate risks are indirect arising from customers' exposures. Hence banks require customer data to be able to align their lending portfolios to be consistent with Paris agreement
Financial	Risk	Long	Low	Political and counterparty risk - banks are highly exposed to local economic conditions, which in some cases will be severely impacted by climate change (both physical risks and macroeconomic conditions), and the pace of that change (politics)
Financial	Risk	Medium	Low	Fungible, fragmented sources of capital - credit risk exposure to high intensity companies could result in higher capital requirement which is negative for banks. Regulators are conducting climate risk stress tests that could result in capital add-ons

Key specific analyst opportunities for the Target Date Funds, growth stage based on portfolio holdings as at 31 March 2023

Sector or industry	Type	Time frame	Share of earnings affected	Description
Financial	Opportunity	Medium	Medium	Growth in demand for sustainable banking and insurance products - financing the green transition could lift European banks' loan growth from 2.5% to 4.0% per annum every year for the next 30 years
Transportation	Opportunity	Long (10+ years)	Very high	The transition to cleaner technologies may enable the development of new revenue streams for manufacturers, either via entry into new product categories or via new areas such as self-driving battery powered vehicles. This may enable companies to increase their revenue and margin profiles
Technology	Opportunity	Long (10+ years)	Medium	Those companies with advanced digital capabilities could gain share of valuable revenue streams by driving decarbonisation of other sectors (for example 'smart' offices, manufacturing etc.)
Utilities	Opportunity	Medium (3 - 10 years)	Medium	Power grid integration - in order to electrify transport and heating and handle increasing renewable input, power grids will need to be upgraded. A greater investment need will probably be supported with adequate returns and create an opportunity for regional monopoly grids to invest to grow
Utilities	Opportunity	Medium (3 - 10 years)	Medium	Renewables - the energy transition will likely need major investment in renewables. Policy would create investment incentives and opportunities to create value through developing capacity. Developers that are well positioned to compete in auctions should be able to claim a share if the value creation

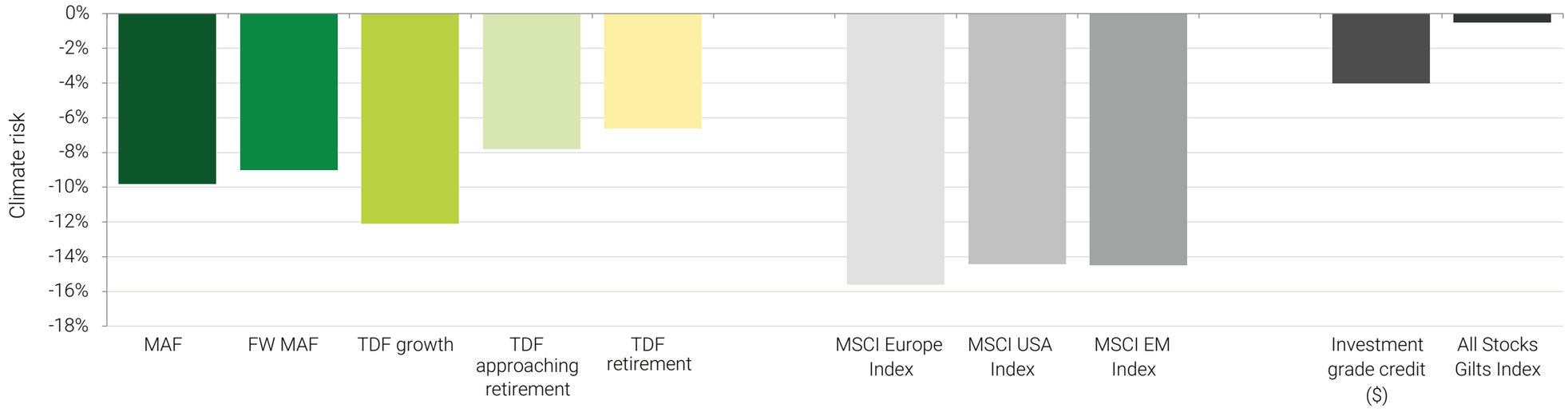
Reminder of the four energy pathways currently used

Scenario	Target global warming by 2100 (50% probability)	Core narrative
Net zero 1.5°C	1.5°C	Immediate, highly ambitious action to address climate change leads to a reduction in CO_2 emissions to net zero around 2050
Below 2°C	<2°C	Immediate, ambitious policy and investment action to address climate change succeeds in limiting global warming to well-below 2°C (but most likely exceeds 1.5°C)
Below 2°C disorderly	<2°C	Policy and investment action to limit global warming to well-below 2°C is delayed until 2020, resulting in much more disruptive change. Warming most likely exceeds 1.5°C
Inaction	3-4°C	Global failure to act on climate change means emissions continue to grow at historical rates

While the main TCFD metrics of carbon footprint and total carbon emissions reflect the historical carbon state of portfolios, the main metrics of temperature alignment and climate risk are used to understand portfolio exposure to future climate change. Temperature alignment assesses the risk the assets pose to achieving various climate outcomes: whether companies are contributing to the changes we need to see, or whether they are putting them at risk. Climate risk describes the potential risk from various climate scenarios to asset valuations.

Modelled climate risk is another tool used to influence conversations around, and decisions to be made on, the relative strength of the climate credentials of portfolios held. It shouldn't be used in isolation to drive any decision-making. It helps us to understand the strategic implications of possible climate pathways, including the key features of a transition to a net-zero economy.

Modelled climate risk for Legal & General Mastertrust default funds, as at 31 March 2023, under a 'Below 2ºC disorderly' energy pathway, shown against a number of comparators:



The climate risk metric evaluates the risk from climate change for a fund, and it is calculated bottom-up at the security level for each timestep until 2050. It is the loss to the fund in 2050 associated with a particular energy pathway all else held equal. Risks are based on forward-looking valuations of individual companies across the capital structure, recognising the stock-specific nature of climate risk. A greater reduction in value can be expected on the most at-risk stocks and sectors. Given the uncertainty around future climate outcomes, it is unlikely that climate risk is properly priced into markets today.

The 2050 risk is discounted to today at the cost of capital for each asset class. This represents the expected loss if the market fully priced in today the climate risk for companies out to 2050 should they keep the same strategy.

From the chart above, the climate risk can be clearly seen for the different asset classes of equities (MSCI indices), corporate bonds (investment grade credit) and government bonds (All Stocks Gilts Index). This is because the bonds held have short maturities, so they are less impacted than equities. And in the case of a company going bankrupt, bond holders are paid out first and as with investments, bonds are lower risk than equities.

Also illustrated is the climate risk of different geographical regions, which may look surprising, as emerging market countries are set to be hardest hit by macroeconomic climate risks. Generally, transition risks hit these regions harder because even though they have fewer emissions per capita, they are expected to grow significantly in terms of both economic output and population over the coming three decades. Their baseline emissions growth is hence much higher – and costly to abate – than in developed countries with moderate growth trajectories.

However, a global impact to GDP is applied in the risk model, rather than regional impacts, as many companies are not listed where they primarily operate. As the regional split of revenue for companies cannot be comprehensively accounted for, a global risk factor is deemed to be more accurate.

Conclusions from the latest energy pathway analysis

A huge range of factors have moved in favour of climate success – costs continue to fall rapidly, technology change continues to accelerate, investor awareness has dramatically increased, and stated ambitions have, if anything, grown. But none of this has been matched by the capital allocation or policy action that would be required to be confident we are objectively on track for a net-zero 2050 world.

If the world is not going to take the path of a market-led, timely transition to a net-zero world, then we need to start preparing for the possible implications. The future may not resemble the past and the road ahead may be very bumpy.

Inflationary pressures are likely to build and may become more sustained. To be clear, the inflation we see around us today is not primarily a function of the energy transition. A delayed transition will almost certainly lead to a sustained building of inflationary pressures and may start to materialise just as the current wave of energy price-led inflation starts to recede.

The current period of elevated volatility is likely to persist and may worsen over time. As the fundamental inequity of a delayed transition starts to manifest, with emerging market populations experiencing both the start of serious physical climate risks (which they are likely to encounter before those in developed markets), and the economic consequences of a delayed transition, the geopolitical consequences are likely to be significant. Politicians may look to raise trade barriers in response and mass migration is a real possibility. These and other risks, such as new inequalities within countries leading to social unrest and political instability, and the rapid loss of jobs, mean that a transition not regarded as just could itself be threatened.

There is an unavoidable corollary to delayed climate action, and the significant financial risks quantified in this report associated with this. The sum of increased volatility, lower corporate profitability, greater geopolitical risk, significant and sustained inflationary pressures and negative productivity impacts will all add up to lower market returns over the next 15 years.

High-carbon sectors like energy and mining are simultaneously the parts of the portfolio that contribute most to overall climate risk, but they are also a critical part of a successful energy transition that will require large amounts of capital to shift to low carbon technologies and products. Simply divesting from the most polluting companies is unlikely to provide a satisfying solution if universally applied. Indeed, the temperature alignment case study earlier in this report illustrates that avoiding investment in the energy and utilities sectors is no quick fix to attaining a sub 2°C temperature aligned portfolio.

Holdings in high-carbon sectors are not all created equal simply because they produce high emissions today. In fact, these companies are presented with an opportunity to play a leading role in decoupling economic growth from carbon emissions – and whether they choose to do so is a major distinguishing factor. To realise this opportunity, capital can be provided to those that credibly align their strategic direction with a Paris-aligned pathway. Where laggards are identified, or expectations are not realised, engagement, sanctions and – where consistent with client objectives – exclusions, can be effective and meaningful tools. These tools are already used to varying degrees within the Legal & General Mastertrust defaults, and their effectiveness to date is illustrated throughout this report.

The focus now needs to shift to considering how much capital could be allocated to those companies and countries that may not yet be perfectly positioned for the transition (given so very few are today), but which have the potential to be.

Climate risk for all in-scope funds and lifestyles

Please note that although four energy pathways/scenarios have been detailed on page 58, the last pathway, of inaction, is not detailed in the following table. Scenario results are produced for the three pathways that are based on transition risks (below 2°C, net zero 1.5°C and delayed below 2°C). We do not apply the inaction scenario to our portfolios. We expect most of the associated impact to be driven by physical risks, which tend to be highly localised and manifest further into the future, and hence are more uncertain. For the avoidance of doubt, scenario analysis for all in-scope funds and lifestyles have been re-run as at 31 March 2023, and so are updated from the figures shared in last year's report.

The tables below show the net present values of the expected loss to each fund or lifestyle if the market fully priced into the market today the climate risk for the companies held within these portfolios out to 2050, assuming the companies held and the proportions to these remained the same.

Fund	Scenario 1 (1.5°C)	Scenario 2 (2°C)	Scenario 3 (2°C disorderly)	Coverage
	Percentage loss per fund			%
L&G PMC Multi-Asset Fund 3	-8.5	-5.0	-9.8	69.9
L&G PMC 2020 - 2025 Target Date Fund 3	-4.9	-2.8	-6.6	50.2
L&G PMC 2025 - 2030 Target Date Fund 3	-6.1	-3.5	-7.8	62.5
L&G PMC 2030 - 2035 Target Date Fund 3	-7.2	-4.1	-9.0	70.0
L&G PMC 2035 - 2040 Target Date Fund 3	-8.6	-4.9	-10.4	71.2
L&G PMC 2040 - 2045 Target Date Fund 3	-8.7	-5.0	-10.6	71.3
L&G PMC 2045 - 2050 Target Date Fund 3	-9.9	-5.7	-11.9	72.5
L&G PMC 2050 - 2055 Target Date Fund 3	-10.0	-5.8	-12.1	72.6
L&G PMC 2055 - 2060 Target Date Fund 3	-10.0	-5.8	-12.1	72.6
L&G PMC 2060 - 2065 Target Date Fund 3	-10.0	-5.8	-12.1	72.6
L&G PMC 2065 - 2070 Target Date Fund 3	-10.0	-5.8	-12.1	72.6
L&G PMC 2070 - 2075 Target Date Fund 3	-10.0	-5.8	-12.1	72.6

Fund	Scenario 1 (1.5°C)	Scenario 2 (2°C)	Scenario 3 (2°C disorderly)	Coverage
	Percentage loss per fund			%
L&G MT Future World Multi-Asset Fund	-7.3	-4.2	-9.0	70.2
L&G PMC Cash Fund 3	-0.4	-0.1	-8.7	0.0
L&G PMC UK Equity Index Fund 3	-17.6	-11.3	-16.8	70.1
L&G PMC World (Ex-UK) Equity Index Fund 3	-13.2	-7.9	-14.9	83.3
L&G PMC Global Eqty Fixed Weights 50:50 Index Fund 3	-15.2	-9.5	-16.0	75.8
L&G PMC Retirement Income Multi-Asset Fund 3	-6.4	-3.7	-8.1	54.5
L&G PMC All World Equity Index Fund 3	-13.3	-8.0	-15.0	82.2
PB Composite Global Equity Index Fund	-14.3	-8.8	-15.4	79.4
Employer D* Corporate Bond Fund	-1.1	-0.1	-3.1	74.7
Employer D* Diversified Fund	-16.0	-8.7	-15.2	38.9
Employer D* Growth Fund	-12.8	-7.5	-14.6	60.9

Lifestyle	Scenario 1 (1.5°C)	Scenario 2 (2°C)	Scenario 3 (2°C disorderly)	Coverage
	Percentage loss per fund			%
Legal & General Drawdown				
+45	-8.5	-5.0	-9.8	69.9
+5	-8.5	-5.0	-9.8	69.9
0	-6.4	-3.7	-8.1	54.5
Employer A				
+45	-14.4	-8.9	-15.5	76.1
+5	-9.1	-5.3	-10.5	57.7
0	-9.1	-5.3	-10.5	46.6
Employer B				
+45	-14.8	-9.1	-15.6	78.0
+5	-9.1	-5.3	-10.5	62.0
0	-0.4	-0.2	-1.0	58.9
Employer C				
+45	-13.4	-8.0	-15.2	80.5
+5	-6.3	-3.5	-7.9	66.2
0	-5.1	-2.8	-6.5	62.2
Employer D* (i)				
+45	-12.8	-7.5	-14.6	60.9
+5	-10.1	-5.7	-11.8	61.8
0	-3.3	-2.0	-4.5	47.2

Lifestyle	Scenario 1 (1.5°C)	Scenario 2 (2°C)	Scenario 3 (2°C disorderly)	Coverage
	Percentage loss per fund			%
Employer D* (ii)				
+45	-12.8	-7.5	-14.6	60.9
+5	-10.1	-5.7	-11.8	61.8
0	-9.4	-5.1	-10.8	44.3
Employer E				
+45	-8.5	-5.0	-9.8	69.9
+5	-8.1	-4.7	-9.4	66.0
0	-6.4	-3.7	-8.1	35.4
Employer F				
+45	-11.2	-6.5	-13.8	83.5
+5	-7.3	-4.2	-9.0	70.2
0	-6.4	-3.7	-8.1	40.9
Employer G				
+45	-13.6	-8.3	-15.1	80.9
+5	-8.0	-4.8	-9.2	80.6
0	-6.0	-3.6	-6.9	87.3
Employer H				
+45	-15.2	-9.5	-16.0	75.8
+5	-8.5	-5.0	-9.8	69.9
0	-6.2	-3.6	-7.7	49.9

* Funds hold a portion of assets managed by fund managers external to LGIM

Section 5

Appendix

Metrics for all in-scope funds, Scope 3 emissions only

Metrics for all in-scope funds, Scope 3 emissions only

Fund	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (Tonnes CO_2e per £1m EVIC)	Coverage %
L&G PMC Multi-Asset Fund 3	3,853	2,704,558	701.9	67.7
L&G PMC 2020 - 2025 Target Date Fund 3	594	311,579	524.8	49.8
L&G PMC 2025 - 2030 Target Date Fund 3	1,237	628,052	507.9	61.5
L&G PMC 2030 - 2035 Target Date Fund 3	1,542	775,903	503.2	71.5
L&G PMC 2035 - 2040 Target Date Fund 3	1,575	972,883	617.8	76.5
L&G PMC 2040 - 2045 Target Date Fund 3	1,330	838,092	630.2	77.0
L&G PMC 2045 - 2050 Target Date Fund 3	1,204	838,031	696.1	82.1
L&G PMC 2050 - 2055 Target Date Fund 3	961	674,673	702.1	82.7
L&G PMC 2055 - 2060 Target Date Fund 3	624	438,312	702.1	82.7
L&G PMC 2060 - 2065 Target Date Fund 3	240	168,350	702.0	82.7
L&G PMC 2065 - 2070 Target Date Fund 3	21	14,454	701.9	82.7
L&G PMC 2070 - 2075 Target Date Fund 3	0	262	701.9	82.7

Fund	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (Tonnes CO_2e per £1m EVIC)	Coverage %
L&G MT Future World Multi-Asset Fund	391	197,214	503.8	71.9
L&G PMC Cash Fund 3*	170	17,218	101.5	47.2
L&G PMC UK Equity Index Fund 3	144	174,020	1,204.9	92.8
L&G PMC World (Ex-UK) Equity Index Fund 3	316	186,614	590.9	100.1
L&G PMC Global Eqty Fixed Weights 50:50 Index Fund 3	303	286,982	948.2	96.3
L&G PMC Retirement Income Multi-Asset Fund 3	206	129,205	626.8	47.8
L&G PMC All World Equity Index Fund 3	220	140,887	641.4	99.7
PB Composite Global Equity Index Fund	182	139,316	765.5	97.9
Employer D^ Corporate Bond Fund	241	86,133	357.6	95.4
Employer D^ Diversified Fund	487	112,434	230.8	60.1
Employer D^ Growth Fund	1,426	622,332	436.5	77.7

* Proxied by Sterling Liquidity Fund given very low (sub 1%) coverage of L&G PMC Cash Fund 3

^ Funds hold a portion of assets managed by fund managers external to LGIM

Metrics for all in-scope lifestyles, Scope 3 emissions only

Fund	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (Tonnes CO_2e per £1m EVIC)	Coverage %
Legal & General Drawdown	677			
+45		474,916	701.8	67.7
+5		474,916	701.8	67.7
0		423,933	626.5	47.7
Employer A	256			
+45		204,177	797.2	94.7
+5		176,729	690.0	61.0
0		172,494	673.5	50.8
Employer B	347			
+45		30,011	825.5	97.2
+5		42,952	695.8	65.0
0		26,222	432.3	9.0
Employer C	410			
+45		37,410	723.3	98.6
+5		34,388	516.8	62.6
0		37,339	535.3	53.2
Employer D* (i)	3,038			
+45		188,243	436.5	77.7
+5		178,333	403.9	79.8
0		188,253	475.9	60.5

Fund	AUM £m	Total carbon emissions (TCO_2e)	Carbon footprint, (Tonnes CO_2e per £1m EVIC)	Coverage %
Employer D* (ii)	122			
+45		7,551	436.5	77.7
+5		7,154	403.9	79.8
0		7,320	362.1	60.5
Employer E	245			
+45		28,311	701.8	67.7
+5		28,499	686.9	62.7
0		29,257	626.1	31.0
Employer F	205			
+45		6,947	404.7	99.0
+5		15,901	503.8	71.9
0		24,485	626.0	35.8
Employer G	105			
+45		10,046	696.9	99.1
+5		11,248	699.6	63.6
0		11,170	697.8	48.2
Employer H	105			
+45		10,229	948.2	96.3
+5		12,121	701.8	67.7
0		9,378	591.4	54.3

* Funds hold a portion of assets managed by fund managers external to LGIM

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